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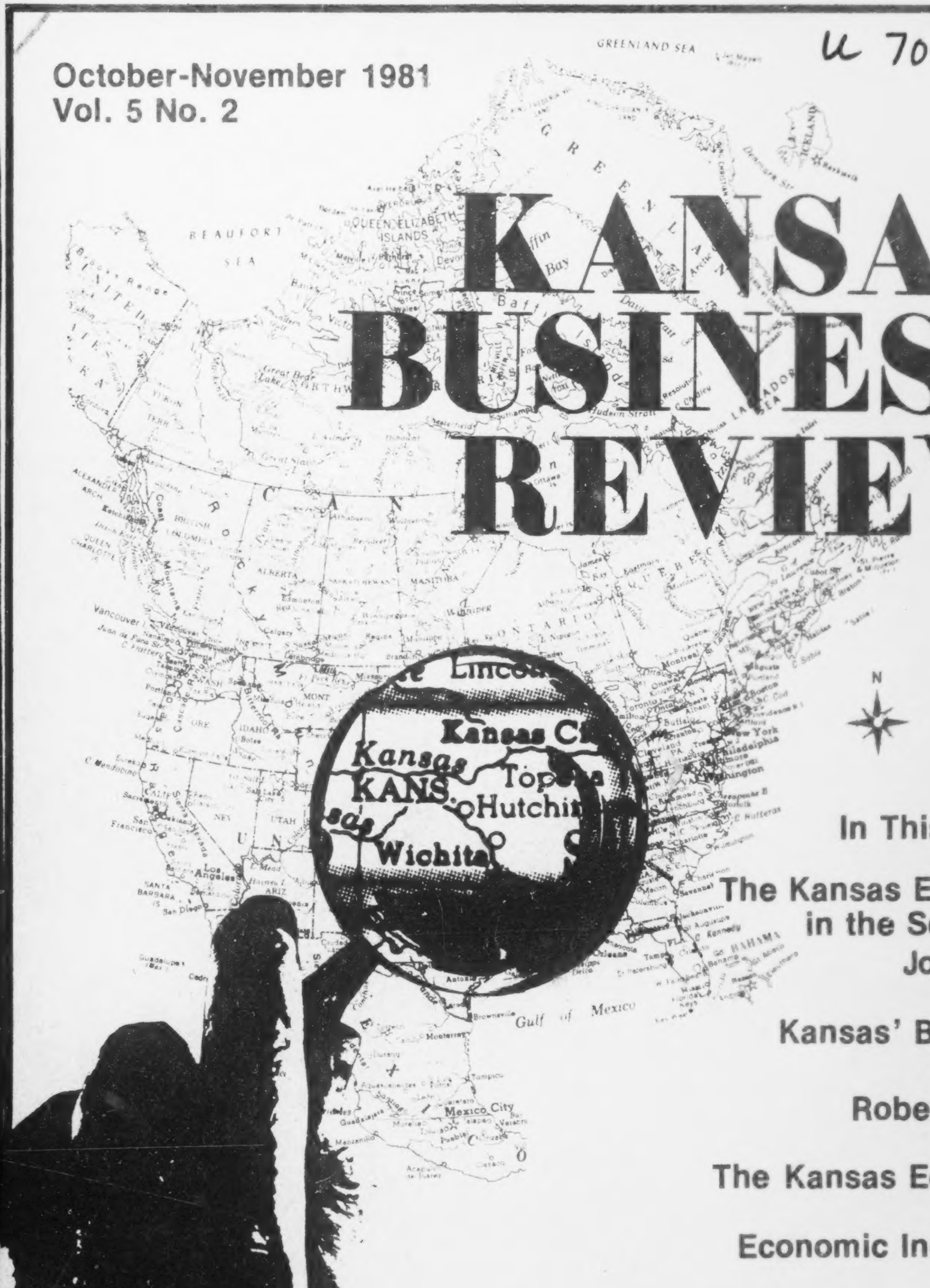
# KANSAS BUSINESS REVIEW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## In This Issue:

The Kansas Economy in the Seventies
John Cita

Kansas' Business Climate
Robert Glass

The Kansas Economy

Economic Indicators

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**Manuscripts for consideration should be typed, double-spaced, and submitted in triplicate. In general, length should not exceed 3,000 words. Authors are reminded of the combined scholarly/practitioner orientation of *Kansas Business Review*, which necessitates the contents being in a form readable by that audience. Accordingly, complex statistical material—when necessary for inclusion—should be included in appendix form.**

**Submit manuscripts to: Editor, *Kansas Business Review*, The Institute for Economic and Business Research, 319 Raymond Nichols Hall, The University of Kansas, Lawrence, Kansas 66045.**

# The Kansas Economy in the Seventies

**John Cita**

**Mr. Cita is a research assistant at the Institute for Economic and Business Research (IEBR). He received his M.A. in Economics at the University of Kansas and is currently working toward a Ph.D. Mr. Cita wishes to thank Mr. Robert Glass, IEBR research assistant, and former IEBR research assistants Ms. Janet Majure and Ms. Robin Hunn for their invaluable help with the study.**

## Introduction

This article's intent is to describe and, where possible, to analyze the performance of the Kansas economy in the 1970s. The basic methodology will be to examine the movements of four major economic indicators—per capita income, personal income, population, and employment and earnings—in comparison to their national averages and to their performance in other states over the past decade. In addition, the performances of these measures in various regions and counties within the state will be compared.

By virtue of this comparative approach, a number of important characteristics of the Kansas economy come to light. Perhaps most significant is the finding that Kansas does indeed have a relatively strong economy, one that weathered the six post-World War II national recessions rather well and that registered, in the 1970s, gains in employment and in per capita and personal income that exceed the national rates of growth.[1] However, another finding of the study identifies an abiding weakness in the state economy, one that could become exacerbated in the future: Kansas' population is growing quite slowly, and the state experienced significant outmigration between 1970 and 1980.

This methodology also allows for a description of Kansas' economic performance highlighted against the Sunbelt movement. This economic phenomenon has been defined as the "geographic shift in economic activity . . . with industry and job opportunities leaving the Northeast and North Central regions and moving to the South, Southwest, and West,"[2] and, according to one publication, Kansas can be identified as a Sunbelt state.[3] (See Footnotes 2 and 3 for an expanded definition of the Sunbelt movement.) This study's findings do not justify that identification, nor do they confirm Kansas' status as a Frostbelt state. Not surprisingly, as implied by Kansas' geographic position, on a relative scale, Kansas' economic performance can be seen occupying a mid-point between the sharply accelerating economy typical of a Sunbelt state and the declining, static, or slowly growing economy typical of a Frostbelt state.

Finally, the intrastate profile developed by the methodology reveals that the state's northwest quarter did not perform as well as did the other three quarters. Of particular note is the finding that the southeast quarter belied its reputation as the state's most depressed region: over the decade, it experienced the strongest levels of economic growth.

## Per Capita Income

Per capita income—an important indicator of economic welfare—is the average income per person. Compared to the nation during the seventies, Kansas gained considerable ground in its level of per capita income, rising from a national position of nineteenth in 1970 to fourteenth in 1980. Also in 1980, the state ranked eleventh in terms of the level of per capita disposable income (the ten states ranking ahead of Kansas had higher state and local taxes as well).[4]

The nominal dollar level of per capita income in 1970 for the nation was $3,966; for Kansas, $3,853. In 1980, the respective levels were $9,379 and $9,928. Thus, in the last decade, the per capita income of Kansas moved from 96 percent of the national figure to 106 percent. In fact, since 1973, Kansas' level of per capita income has consistently exceeded the national level—a situation occurring previously only in 1952 and 1953 (see Table 1). More specifically, the average per capita income in Kansas grew 157.7 percent in nominal terms and 30.2 percent in real terms, while the national growth levels were 136.5 percent and 19.5 percent, respectively. These figures demonstrate a period of notable progress in the 1970s for the state's economy relative to the U.S. economy in terms of per capita income growth levels.

The considerable gains in the level of Kansas per capita income can be seen also upon comparing the growth patterns of past decades (see Table 2). Compared to the nation, Kansas lost ground from 1930 to 1940; registered gains during the '40s, '50s, and '60s; and, in the '70s, began to exceed the nation's level of growth.

Within the state, per capita income growth has fallen behind in the northwest quarter of the state. The other three quarters are quite comparable. Of all the regions in the state (see Map), the northeast quarter had the highest growth by a small margin. The counties which lost the most ground are in the extreme northwest corner of the state, extreme north central section, and in the Flint Hills region. Cheyenne and Stanton counties had the lowest average income growth. The southwest quarter of the state had those counties that were the state's big gainers: Wichita, Scott, Steward, and Finney counties. It is interesting to note that the third biggest gainer at the county level (Stevens) borders the second largest loser (Stanton).

The most significant pattern arising from this intrastate perspective is that most of the "big gainer" and "loser" counties are in the west where they strike a relative balance, while the eastern half has few of either extreme. This difference is partially explained by the relative changes in population and employment growth (both are discussed in greater detail in the following sections).

Another means of establishing the comparative status of the Kansas economy in the seventies is to examine its growth rate of per capita income in relation to the growth rates of other states and regions. Table 3 compares the growth rate from 1970 to 1979 of per capita income for various states and regions.

On a regional level, the Plains area, which includes Kansas, had the fourth highest growth rate as compared to other regions—only slightly behind the Rocky Mountain and southeast areas of the country. The highest growth rate in per capita income occurred in the Southwest, the Sunbelt region, which includes Texas, Oklahoma, New Mexico, and Arizona. Although the Rocky Mountain, southeast, and southwest regions had per capita income growth rates greater than the Plains region, they exhibited lower *levels* of per capita income throughout the seventies. Conversely, those regions with growth rates in per capita income lower than the Plains area had greater per capita income levels over the same period. These relationships suggest that over the decade regional per capita income levels are moving towards some sort of equilibrium. The average rate of growth, from 1970 to 1979, of per capita income was 139 percent in the Sunbelt, 138 percent in the Marginal Sunbelt, and 133 percent in the Frostbelt. In Kansas, it grew nearly 148 percent. *Prima facia,* the state's growth appears impressive, but, without considering population factors, the per capita income picture is incomplete. This point is discussed in the following two sections.

## TABLE 1: Per Capita Income, 1930-1980, Kansas Versus the United States

| Year | Kansas' Per Capita Income (in nominal dollars) | Percent of U.S. Per Capita Income |
|---|---|---|
| 1930 | 468 | 75.0 |
| 1940 | 466 | 71.6 |
| 1950 | 1443 | 96.5 |
| 1960 | 2159 | 97.4 |
| 1970 | 3918 | 99.6 |
| 1972 | 4492 | 99.9 |
| 1973 | 5150 | 103.4 |
| 1975 | 6013 | 102.6 |
| 1980 | 9928 | 105.9 |

## TABLE 2: Growth in Per Capita Income, 1930-1940, Kansas Versus the United States

| Time Period | Kansas | U.S. |
|---|---|---|
| 1930-1940 | – 9.0% | – 4.6% |
| 1940-1950 | 238.7% | 151.3% |
| 1950-1960 | 49.6% | 48.2% |
| 1960-1970 | 81.5% | 77.5% |
| 1970-1980 | 157.7% | 136.5% |

## TABLE 3: Per Capita Income Growth, 1970-1979, States and Regions (In Percent)

| Regions | | Plains Region | | | States | | |
|---|---|---|---|---|---|---|---|
| Southwest | 149 | 2* | North Dakota | 168 | 1* | Wyoming | 170 |
| Southeast | 138 | **8*** | **Kansas** | **148** | 3* | Oklahoma | 155 |
| Rocky Mountain | 136 | 13* | Iowa | 141 | 5* | Texas | 150 |
| Plains | 135 | 16* | South Dakota | 140 | 9* | Oregon | 143 |
| Far West | 130 | 21* | Nebraska | 137 | 14* | Alabama | 141 |
| United States | 125 | 26* | Minnesota | 132 | 20* | Colorado | 138 |
| Great Lakes | 125 | 36* | Missouri | 125 | 25* | Michigan | 133 |
| New England | 110 | | | | 32* | Wisconsin | 129 |
| Mideast | 108 | | | | 38* | Ohio | 124 |
| | | | | | 40* | Illinois | 120 |
| | | | | | 46* | New Jersey | 109 |
| | | | | | 50* | New York | 98 |

* *Asterisk indicates that state's national ranking for per capita income growth.*

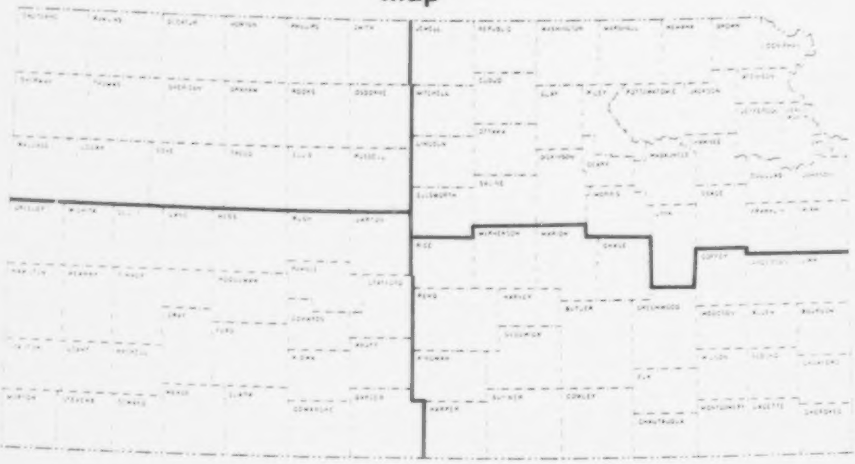
## Personal Income

Personal income estimates for states serve as a basis for interstate comparisons of growth in economic activity and welfare. Between 1970 and 1979, total personal income grew 147 percent (32.1 percent in real terms) in the United States; in Kansas, it grew 152 percent (33.9 percent in real terms) —slightly above average. In 1970, Kansas personal income was 1.08 percent of the U.S. total; 1.12 percent in 1979. This increase reverses the trend in the sixties and most of the fifties when personal income grew faster at the national level than in Kansas. The highest percent of U.S. total for Kansas personal income to occur was 1.31 in 1952. The forties and early fifties (with the influence of WWII and the Korean War) saw Kansas gain considerable ground in personal income growth compared to the nation. Then, Kansas lost ground in almost every year from 1952 to 1969 when, in 1969, Kansas had only 1.06 percent of the total U.S. personal income. However, during the seventies, this downward trend seems to have reversed itself: the early and late seventies saw Kansas increase its percent share; a slight decline occurred in the mid-seventies, but a slight increase in share resulted overall.

Within the state, the northwest quarter had only a 136 percent growth in personal income, a figure significantly below those of the other three quarters (see Map). The northeast, southeast, and southwest quarters had growth rates of 169.9, 178.2, and 175.8 percent, respectively. Counties in the state's southern half had just slightly more growth than those in the north, as did the eastern counties in comparison with those in the west. Although neither the north-south or east-west demarcation shows any one half of the state doing significantly better than the other, dividing Kansas into quarters reveals the sharp contrast noted above: the northwest performing quite poorly in comparison to the other quarters.

As with per capita income, the counties with the largest and smallest growth rates in personal income are found nearly side by side. In the west, those counties with the highest growth rates are Stevens, Steward, and Finney, and in the east, Linn County; those counties with the least growth are Rawlins, Wallace, and Stanton to

Map



### Statewide

### (Percent Change)

| | |
|---|---|
| **Per Capita Personal Income (PCPI),** 1970-80 | 158.0 |
| **Personal Income (PI),** 1970-80 | 171.1 |
| **Population (POP.),** 1970-80 | 5.1 |
| **Migration Rate (MR),** 1970-80 | – 1.3 ( – 31,200) |
| **Farm Income (FI),** 1970-79 | 94.9 |

### Northwest

| | |
|---|---|
| **PCPI** | 145.2 |
| **PI** | 135.9 |
| **POP.** | – 3.8 |
| **MR** | – 7.9 ( – 9,242) |
| **FI** | – 7.0 |

### West

| | |
|---|---|
| **PCPI** | 154.4 |
| **PI** | 161.1 |
| **POP.** | 3.0 |
| **MR** | – 2.5 ( – 16,251) |
| **FI** | 74.0 |

### Southwest

| | |
|---|---|
| **PCPI** | 158.8 |
| **PI** | 175.8 |
| **POP.** | 7.3 |
| **MR** | – 3.4 ( – 7,009) |
| **FI** | 118.4 |

### North

| | |
|---|---|
| **PCPI** | 163.3 |
| **PI** | 166.8 |
| **POP.** | 1.3 |
| **MR** | – 0.9 ( – 22,476) |
| **FI** | 79.8 |

### South

| | |
|---|---|
| **PCPI** | 153.7 |
| **PI** | 177.6 |
| **POP.** | 9.5 |
| **MR** | – 0.48 ( – 5,400) |
| **FI** | 106.7 |

### Northeast

| | |
|---|---|
| **PCPI** | 164.9 |
| **PI** | 169.9 |
| **POP.** | 1.9 |
| **MR** | – 1.2 ( – 13,234) |
| **FI** | 130.4 |

### East

| | |
|---|---|
| **PCPI** | 159.0 |
| **PI** | 173.4 |
| **POP.** | 5.4 |
| **MR** | – 0.73 ( – 14,843) |
| **FI** | 116.3 |

### Southeast

| | |
|---|---|
| **PCPI** | 152.9 |
| **PI** | 178.2 |
| **POP.** | 10.1 |
| **MR** | – 0.17 |
| **FI** | 98.1 |

## TABLE 4A: Personal Income Growth, 1970-1979 (In Percent)

| | |
|---|---|
| United States | 147 |
| Sunbelt States | 182 |
| Marginal Sunbelt States | 180 |
| Frostbelt States | 142 |

| Regions | | | Plains Region | |
|---|---|---|---|---|
| Southwest | 192 | 13* | North Dakota | 182 |
| Rocky Mountain | 190 | **27*** | **Kansas** | **152** |
| Southeast | 166 | 30* | South Dakota | 146 |
| Far West | 149 | 31* | Minnesota | 144 |
| Plains | 141 | 32* | Nebraska | 142 |
| Great Lakes | 126 | 33* | Iowa | 140 |
| New England | 114 | 42* | Missouri | 127 |
| Mideast | 102 | | | |

* *Asterisk indicates that state's national ranking of personal income growth.*

## TABLE 4B: Personal Income Growth, 1970-1979 (In Percent)

| National Rank | State | Growth Rate | National Rank | State | Growth Rate |
|---|---|---|---|---|---|
| 1 | Wyoming | 250 | 12 | Oklahoma | 183 |
| 2 | Nevada | 228 | 14 | Arkansas | 172 |
| 3 | Alaska | 223 | 25 | California | 154 |
| 4 | Arizona | 214 | **27** | **Kansas** | **152** |
| 5 | New Mexico | 198 | 28 | N. Carolina | 149 |
| 6 | Florida | 196 | 35 | Wisconsin | 137 |
| 7 | Colorado | 195 | 40 | Michigan | 133 |
| 8 | Texas | 190 | 43 | Illinois | 119 |
| 9 | Idaho | 189 | 45 | Pennsylvania | 114 |
| 10 | Oregon | 188 | 47 | New Jersey | 110 |
| | | | 50 | New York | 87 |

the west, and to the east, Commanche County.

Farm income in Kansas grew nearly 95 percent over the seventies, a rate slightly higher than the national figure. But farm income in the northwestern quarter of the state actually declined over the decade 7.0 percent (in nominal terms). The farm sector's poor performance in this quarter partially explains the region's relatively poor performance in personal income growth. However, in the state's other quarters, farm income grew between 90 and 130 percent. Those counties with the highest growth in farm income were in the southwest quarter of the state, including Finney, Ford, Scott, and Seward counties. Much of that growth can be explained by the growth and development of irrigation farming combined with the growth and development of the livestock industry in that portion of Kansas. Yet, on average, counties with the highest gain in farm income were located in the eastern half of the state and, more specifically, in the northeastern quarter. The distinctions in farm income growth among the regions are quite sharp and help to explain some of the differences in total personal income growth over all the regions.

Over the seventies, the fastest growing region in the nation was the Southwest with a 192 percent growth in personal income; the slowest growing region was the Mideast at 102 percent. The Plains region, in which Kansas ranked second, grew slower than the rest of the nation and ranked fifth of the eight regions (see Table 4A). From Table 4B, it is clear that the Sunbelt and Marginal Sunbelt states combined with some western states experienced the highest levels of personal income growth in the seventies. The ten slowest rates belong to Frostbelt states. Kansas' relationship to the Sunbelt and Frostbelt becomes a little clearer using personal income growth (Table 4A) rather than per capita income growth. Unlike per capita income growth, the growth of personal income experienced in Kansas is more similar to growth typical in the Frostbelt states. The average Frostbelt state had a growth rate 10 percentage points less than Kansas'; the average Sunbelt state, 30 percentage points higher.

Those states commonly identified as Sunbelt averaged 182 percent growth in personal income, the Marginal Sunbelt states averaged 180 percent growth, and the Frostbelt states 142 percent growth (see Table 4A). Although, as noted, Kansas achieved a significant improvement in its per capita income levels relative to the U.S. average, it achieved, comparatively, only a slight gain in its personal income growth. Further, it should be emphasized that the growth in per capita income for Kansas is explained not so much by personal income growth as by the relatively scant increase in population from 1970 to 1980. For example, the percentage rates of growth in per capita income (1970-1980) for New Mexico and Kansas were 158.04 and 158.02, respectively, and these rates rank seventh and eighth nationally. However, these two states arrived at nearly identical per capita-personal income growth rates following two distinct routes. New Mexico experienced a 217 percent growth in personal income; Kansas experienced a 171.7 percent growth rate. On the other side of the per capita-personal income fence, New Mexico's population grew 27.8 percent over the decade, whereas Kansas grew only 5.1 percent. New Mexico was able to accomodate a high rate of population growth while attaining the same improvement in per capita-personal income as Kansas, while Kansas accommodated a much smaller increase in population.

## TABLE 5: Kansas Employment, 1970-1979 (In Thousands)

| | 1970 | 1979 | % Change |
|---|---|---|---|
| Labor Force | 929.6 | 1204.9 | 29.6 |
| Employed | 885.0 | 1170.4 | 32.3 |
| Farm | 79.8 | 65.5 | – 18.0 |
| Nonfarm | 805.2 | 1104.9 | 37.1 |
| Unemployed | 44.6 | 34.5 | – 23.0 |
| **Sectors** | | | |
| All Industries | 677.0 | 946.8 | 39.9 |
| Manufacturing | 134.5 | 198.9 | 47.9 |
| Durable Goods | 78.5 | 130.3 | 66.0 |
| Nondurable Goods | 56.0 | 68.6 | 22.5 |
| Mining | 11.0 | 13.7 | 24.6 |
| Construction | 45.0 | 46.4 | 55.9 |
| TCPU | 22.6 | 64.1 | 24.9 |
| Trade | 159.3 | 225.7 | 41.7 |
| Wholesale | 34.5 | 63.5 | 84.0 |
| Retail | 124.8 | 162.2 | 30.0 |
| Finance | 30.4 | 46.3 | 52.3 |
| Services | 103.0 | 171.6 | 59.0 |
| Government | 154.0 | 183.3 | 19.0 |

Population information is obviously needed to explain growth in per capita personal income, and the key here is to see that per capita income growth can be a misleading indicator. For example, growth in this indicator may be the result of either a declining population base and a fairly constant personal income level (which is similar to the situation in Kansas) or a constant level of population combined with a growing level of personal income (Pennsylvania's situation). Further, population data is important because differences in regional and local rates of population growth and population trends are usually accompanied by parallel differences in economic growth.

## Population

As mentioned above, population growth and per capita income growth tend to be positively related.[5] And yet, this was not the case for the Kansas economy during the seventies: Kansas' population grew only 5.1 percent from 1970 to 1980 (the national figure was 11.9 percent), ranked 39th in population growth rate, but had the eighth highest growth in per capita income. In the Plains region, only Iowa and South Dakota had smaller population growth rates than Kansas.

The disparity of population growth within the state is as pronounced as that between the state and the nation (see Map). The northwest quarter of the state had a – 3.8 percent growth rate while the southeast quarter grew above the state average at 10.1 percent. The respective rates of population growth for the northeast and southwest were 1.3 and 9.5 percent; for east/west, the respective rates were 5.4 and 3.0. The metropolitan areas of the state averaged 7.0 percent growth whereas the remainder of the state averaged 3.4 percent.[6] The cities averaged 9.25 percent growth while the rural area had a – 8.53 percent growth rate.[7]

The demarcations between the Sunbelt, Marginal Sunbelt, and Frostbelt states are stark with respect to population growth. The Sunbelt and Marginal Sunbelt state population growth rates were 28.4 and 26.9 percent, respectively; the Frostbelt states averaged just 10.0 percent, 1.0 percent below the national average but almost 5.0 percent above Kansas's rate.

Of course, the low rate of population growth in Kansas is not a recent development. Since the 1890s, Kansas' population has grown slower than the nation's from decade to decade. The average differential between the rates is over 9.0 percent. Only in the fifties was the differential less than the differential in the seventies. Thus, historically, compared to the nation, the seventies, with a differential of 6.8 percent, was one of the better decades in Kansas for population growth.

Another measure of both population growth and the level of economic opportunity within a region is that region's migration pattern. People tend to migrate from areas of lesser to areas of greater economic opportunity, and population growth tends, in turn, to mirror such movement. Repeated research has shown that labor migration responds to geographical differentials in earning opportunities, unemployment levels, rates of job growth, and wage rates or income levels. Based on those differentials, migrants generally have expectations of greater economic achievement and are, consequently, motivated to move. Of course, there exist many noneconomic factors that influence an individual's decision to migrate. For example, sunny and dry climates are strong drawing cards, and, for their sake, some individuals are willing to accept lower wages or a greater risk of unemployment.

From 1970 to 1980, more than 31,200 people migrated from the state of Kansas, nearly 1.3 percent of the Kansas population. However, compared to the '60s and '50s, migration from Kansas moderated significantly. More than 130,000 and 43,000 left Kansas from 1960-1970 and 1950-1960, respectively, and the migration rate from 1960 to 1970 was 5.9 percent, from 1950-1960 2.1 percent. The greatest outmigration, on a statewide basis, occurred in the northwest quarter of the state. The southeast quarter (which includes Wichita) had the smallest migration rate even though Wichita (Sedgwick County) combined with the immediately surrounding counties experienced an outmigration of over twelve thousand people. The Topeka SMSA (Shawnee, Jefferson, and Osage counties) had outmigration of over eight thousand people. The Kansas City area (Johnson and Wyandotte counties) had the smallest outmigration of any of the major urban centers: 771 people. Even though all the urban centers experienced outmigration, the rate of migration from those areas is on average less than the rate of migration from the rural areas of the state. The eastern half of the state (containing the three major urban areas) had less absolute outmigration than the western half and a much smaller rate (see Map). It would appear that the main reason for this difference was the existence of greater employment opportunities in the east compared to the west.

Estimates on statewide migration from 1970 to 1977 show Sunbelt states combined with a few western states as having the greatest rates of inmigration.[8,9] Nevada had the highest inmigration rate followed by Florida, Alaska, Wyoming, Arizona, Colorado, Idaho, New Hampshire, Oregon, and New Mexico. The largest rates of outmigration occurred in New York (highest), Ohio, Rhode Island, Illinois, Indiana, Michigan, and Pennsylvania. The divergence in migration trends among different regions of the nation are like the population figures—very distinct. Nearly half the Frostbelt states had negative migration rates, and those that did not are located, almost exclusively, west of the Great Plains.

## Employment and Earnings

Employment for the state of Kansas grew approximately 33 percent from 1970 to 1979; the national figure is slightly over 26 percent. Compared to all other states, Kansas ranked twenty-ninth in terms of employment growth. In 1970, Kansas employment comprised .96 percent of the national total; in 1980, 1.06 percent of the national total. From 1950 to 1960, the growth rate of employment in Kansas was 6.3 percent; from 1960 to 1970, 8.8 percent. During the last decade, farm employment fell nearly 20 percent while nonfarm employment increased 37.2 percent (a trend common to nearly all states).

The fastest growing sector in the Kansas economy was the service sector. The slowest was the transportation, communication, public utilities (TCPU) sector (see Table 5). Compared to the previous two decades, the seventies saw positive growth in mining employment and in TCPU employment. Construction showed negative growth during the sixties, but the trend reversed during the seventies. Not surprisingly, farm employment growth has been negative for the last three decades, but was at a smaller rate during the seventies. Perhaps a leveling out is near. Since 1960, the services sector has had the highest growth rate in employment compared to the other sectors.

With one exception, changes in the distribution of employment by major industries over the last decade within the state of Kansas have mirrored the changes in employment distribution at the national level. That is, the percent of total employment in the service, trade, mining, finance, and construction sector has increased in both the Kansas and U.S. economies, while relative declines have occurred in the farm and TCPU sector. The exception is manufacturing. At the national level, the percent distribution declined, whereas in Kansas it increased. More specifically, durable goods employment increased, relatively, in Kansas and fell at the national level. In Kansas, most of the new jobs created (via new firms and/or expansions) within the durable good sector are of the old-line variety, e.g., machinery (non-electrical), fabricated metal, and transportation equipment.[10] Manufacturing employment has played a relatively major role, at least historically, in the economic expansion of the Southwest and West. Of the limited new manufacturing jobs found in those regions, a large percentage is in the new industries, e.g., computers, tele-communication, and automation systems.[11]

Within the state of Kansas, the growth of employment opportunities was strongest in the eastern half of the state. The east central and southeast were strong gainers over the decade, while the southwest was a strong gainer in the early part of the decade.[12] This relative strength is reflected also by the fact that these regions experienced the greatest gains in personal income and population and the least amount of outmigration. The relationship between these three variables is clear. Where there is growth in employment opportunities, there will generally be growth in the level of population and personal income. Outmigration will likely be negligible and probably negative.

However, at the county level, an interesting pattern of play among these variables developed in the '70s. In general, the manufacturing centers in the state (the Wichita SMSA and the KC SMSA) supply the highest level of employment opportunity due to the existence of basic industries in those areas. Yet, it appears that the counties surrounding the industrial centers did better than the counties containing them. Sedgwick, Wyandotte, and Shawnee counties all had considerable outmigration and negative population growth rates (excluding Sedgwick), yet a vast majority of the counties surrounding these three had, on average, inmigration and population growth rates far exceeding the state figure. Thus, it seems that a dispersion of economic activity from the extreme industrial centers to the neighboring counties has occurred. The level of economic activity is still greatest in these regions but is approaching a broader base within the state's regions.

In the nation, the Sunbelt states experienced the greatest gains in total employment. The eight states with the highest employment growth were, in order, Nevada, Wyoming, Arizona, Alaska, Idaho, Colorado, New Mexico, and Florida. Obviously, the Sunbelt and western states dominate. The ten slowest growth states are all in the Great Lake, New England, and Mid-Atlantic regions. Again, Kansas ranked twenty-ninth nationally.

It is not possible to make a definitive statement on wage and earnings differentials among states over the last decade because of an insufficient data base. The Kansas Department of Economic Development in 1978 identified the state as developing a possible "tendency to attract lower-wage (manufacturing) firms." Relative to other states, it would be difficult to determine whether this is indeed true. In 1970, Kansas had the 22nd highest average hourly wage paid to workers on manufacturing payrolls. In 1979, Kansas ranked 21st. From 1970 to 1979, the growth rate of average hourly earnings for manufacturing workers in Kansas increased just slightly more than the national figure. At first glance, it doesn't appear that manufacturing wages in Kansas have fallen

**Personal income, employment, and average income grew faster in Kansas than in the U.S. as a whole; however, Kansas had a slower rate of population growth and a negative migration figure.**

**Given the past decade's records of the Sunbelt and Frostbelt states, Kansas' economic record can hardly be described as similar to either.**

behind the rest of the nation. As of 1979, the average hourly manufacturing wage was approximately 10 cents above the national average.

## Conclusion

The performance of the Kansas economy during the seventies compares favorably, in the main, to the performance of the national economy (i.e., an average state economy). Personal income, employment, and average income grew faster in Kansas than in the U.S. as a whole; however, Kansas had a slower rate of population growth and a negative migration figure. It should be kept in mind that the Kansas personal income and employment growth rates were only slightly greater than the respective national figures. And, even though per capita income growth in Kansas was much greater than at the national level, this was due, to a large extent, to the slower rate of population growth in the state. Still, it must be said that the Kansas economy performed, compared to the two previous decades, very well during the seventies. Aside from population growth, all of the indicators grew faster in the seventies than in the fifties and sixties. Also, fewer people migrated from Kansas during the last decade than in the preceding two. Relative population growth during the seventies was ahead of the fifties' figure but behind the sixties' figure. Hence, compared to days-gone-by, the Kansas economy performed vigorously over the last ten years. Of course, the question is: Will this trend continue?

Within the state, the northwest quarter performed quite poorly compared to the other quarters, due, in great part, to the small amount of manufacturing in that quarter along with the negative growth in farm income over the decade. The other quarters performed almost equally well, but the southeast could be singled out as the best. Farm income growth in the east, in general, and the growth of manufacturing and mining employment in that quarter, in particular, tended to boost this region of the state. (See Map for a summary of indicators.)

Compared to all states, Kansas' performance certainly wasn't the best, but it was also far from the worst. In general, the Sunbelt, Marginal Sunbelt, and a hand-full of western states performed much better. States in the Great Plains region performed comparably, while most states to the east and north of Kansas, the primary Frostbelt states, did much worse. Given the past decade's records of the Sunbelt and Frostbelt states, Kansas' economic record can hardly be described as similar to either. The Kansas economy, for the most part, was not influenced, either positively or negatively, by the so-called Sunbelt movement.

All of which is not to say that no problems exist in the Kansas economy. Certainly the outmigration over the seventies can be seen as a problem: one wonders why people are leaving the state. Also, the fact that the percent of manufacturing employment is increasing in Kansas and generally decreasing elsewhere and that people are still migrating further suggests a problem. Almost 60 percent of interstate migration is motivated primarily by job-related factors; the other 40 percent moved principally for noneconomic reasons.[13] The question arises: What in terms of job-related factors is Kansas lacking so that people are motivated to leave the state? This question along with others will be dealt with in future issues of *Kansas Business Review.*

**Certainly the outmigration over the seventies can be seen as a problem: one wonders why people are leaving the state.**

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**Footnotes**

1. In the 1969-1970 recession (the only major post-WW II recession to hit the Kansas economy harder than the national economy, at least in terms of change in personal income), the rate of unemployment in Kansas was 5.7 percent; in the nation, 5.9 percent. In the 1973-1975 recession, the respective rates were 4.6 and 8.9 percent. At the beginning of the 1980 slow down, the rates of unemployment were 3.6 and 8.1 percent respectively. Also see *KBR*, March, 1981.

2. B.J.L. Berry and D.C. Dahmann, "Population Redistribution in the United States in the 1970's," in *Population Redistribution and Public Policy*, The National Research Council, 1980.

Using a climatic criterion, most studies identify California, Nevada, Arizona, New Mexico, Texas, Oklahoma, Louisiana, Mississippi, Alabama, Georgia and Florida as Sunbelt states; Utah, Colorado, Arkansas, and South Carolina as Marginal Sunbelt; the rest as Frostbelt.

3. "A New Milestone in the Shift to the Sunbelt," *Nation's Business*, May, 1977, p. 69.

Kansas was one of twenty-six other states identified as Sunbelt states. Those other states were for the most part to the south and west of Kansas.

4. Alexander Grant & Company, Certified Public Accountants, "A Study of Manufacturing Business Climates of the Forty-eight Contiguous States of America," 1980.

5. T. Mullen and G.E. Peterson, "The Economic and Fiscal Accompaniments of Population Change," in *Population Redistribution and Public Policy*, p. 72.

This point deserves some elaboration. The authors found that greater-than-average per capita income growth is usually coupled with greater-than-average population growth. The same is true for less-than-average per capita income growth and less-than-average population growth. These combinations are more common than any others—possible explanations are offered in the article.

6. These areas include the Kansas City, Topeka, and Wichita Standard Metropolitan Statistical Areas (SMSAs) which contain, respectively, Johnson/Wyandotte, Osage/Shawnee/Jefferson, and Sedgwick/Butler counties.

7. Rural areas are defined as nonincorporated areas.

8. U.S. Bureau of Census, "Current Population Reports," series P-26.

9. See the article by P.L. Rones, entitled "Moving to the Sun: Regional Job Growth, 1968 to 1978," in *Monthly Labor Review*, March 1980.

10. See Kansas Economic Progress, "Research Memorandum Series #4" and "Manufacturers Entering the Kansas Economy, 1967-1978," Kansas Department of Economic Development (KDED).

11. See *Fortune*, December 1980, "Making U.S. Products Better."

12. See Kansas Economic Progress, "Research Memorandum Series #5," KDED.

13. See Rones.

**Sources**

Data from the following sources were used in this study. A more detailed explanation of them is available upon request.

Tables 1-5 were compiled with Bureau of Economic Analysis data; Table 6 used data from the Kansas Department of Human Resources. Other sources were the Bureau of Labor Statistics, *Monthly Labor Review*, *Kansas Statistical Abstract* (The University of Kansas Center for Public Affairs), and *Research Memorandum Series #1-4* (Kansas Department of Economic Development).

# Kansas' Business Climate

**Robert Glass**

**Mr. Glass is a research assistant at the Institute for Economic and Business Research.**

## Introduction

Kansans who have been concerned with the future economic development of the state received good news from a recently published study by Alexander Grant & Company, Certified Public Accounts.[1] In their study, Alexander Grant & Company developed a complex methodology for ranking states according to their "Business Climate." Of the 48 contiguous states, Kansas was ranked 13th, higher than any of its surrounding states. Upon adding the findings of Alexander Grant & Company to the conclusions in a previous article in this journal by John Cita and to those in his lead article in this month's issue—that the Kansas economy is less sensitive to the cyclical swings in the national economy than most states and that the Kansas economy enjoyed relative success during the past decade—one would seem compelled to conclude that all is well with the Kansas economy.

This, however, was not the conclusion drawn by Carl Nordstrom, Executive Vice President of the Kansas Association of Commerce and Industry. After briefly reviewing the results of the Alexander Grant & Company study, Mr. Nordstrom noted that, on the basis of this study, "one might expect Kansas to have the best record of job gains in, say, the last ten years [of any of its surrounding states]. However, in actual number of jobs gained, Colorado leads this area, with Missouri and Oklahoma next, in that order. If the number of jobs gained is expressed as a percentage, we move up a notch, but still trail Colorado and Oklahoma. What's our problem?"[2]

In his article, Mr. Nordstrom identifies a major problem in the state's economy: the need for Kansas to attract more jobs. Mr. Nordstrom's insights are also valuable if the focus of his last question is changed to: "Are there any problems with the Alexander Grant & Company study?" Although a critical review of the study might appear to be of only negative value, I feel that, by carefully analyzing the Alexander Grant & Company study, Kansans can gain a more complete understanding of their state's attractive and unattractive features and, with this knowledge, help form Kansas public policy in a more responsive, foresighted manner. With this purpose in mind, I will begin by simply outlining the study's methodology and major conclusions before subjecting it to critical scrutiny.

## The Study

Although numerous factors determine the attractiveness of a state's business climate, the only factors that Alexander Grant & Company consider are those that meet the following five criteria:

1. they are controlled by the actions of state and local governments;
2. they are quantifiable and credible;
3. they are obtainable from published information;
4. they are available for all 48 contiguous states; and
5. they represent a spectrum pertinent to manufacturers.[3]

To satisfy the fifth criterion, a list of 16 factors which met the first four was sent to 38 continental state manufacturer's associations of the Conference of State Manufacturer's Associations. These state associations were asked to select eight of these factors and rank them in order of importance. Using a complicated weighting process based on the voting of the state associations, each of the 16 factors was given a special weight. Two additional factors were added by Alexander Grant & Company and given an arbitrary weight. (See the Appendix for an explanation of the 18 factors; see Table I for a list of the 18 factors and their relative weights.) The weight of a factor combined with the adjusted value of that factor provided the score a state received for each factor. Then, for each state, all of the weighted scores for all 18 factors were added together to give that state's business climate score.

The study's results included more than a simple ranking of the 48 contiguous states. Also included was a separate table for each of the 18 factors containing each state's value and ranking for that factor. Table 2 summarizes these results for Kansas. Kansas ranked in the top ten for four factors: state spending growth versus state income growth (3rd); net worth of state unemployment compensation trust fund (4th); energy costs per million BTUs (7th); and labor union membership (8th). That Kansas should rank comparatively well in these four categories is not surprising. Kansas has long had a reputation as a fiscally conservative state; it is a "right to work" state and, quite probably, the unemployment compensation trust fund is over funded; and it has been a producer of natural gas. On the other hand, for three factors, Kansas scored in the bottom ten: percentage change in average weekly manufacturing wage (47); vocational education expenditures (44); and state disbursements for highways (41). The first of these categories represents an aberration. The large increase in weekly manufacturing wage was only temporary, and, as of this writing, the percentage change has already dropped to half of the number used in the study. The other two factors are simply examples of the conservative attitude which, in great part, determines Kansas public policy.

## Limitations of the Study

Alexander Grant & Company are well aware of some of the limitations of their study. In its introduction, several factors that determine the attractiveness of a state's business climate are excused from consideration. Many of them, such as attitude of public officials, are difficult, if not impossible, to quantify. Others, although quantifiable, lack a standard definition across all states which prohibits equal assessment of the factor. Finally, the values of some factors, such as climate, cannot be easily changed.[4] Clearly, then, Alexander Grant & Company is well aware of the limitations of using only quantitative analysis. However, being aware of the limitations of a certain approach does not eliminate these limitations. In particular, several "quality of life" factors not included by Alexander Grant & Company work to Kansas's disadvantage: (1) Kansas has what many perceive to be antiquated drinking laws; (2) Kansas has comparatively few natural attractions such as mountains, beaches, and lakes; and (3) Kansas has a climate that runs to extremes. How important these factors are is impossible to measure; however, many would argue that they are important.

A second limitation of the study's quantitative methodology is that the data does not necessarily measure what it intends to measure. For example, factor seven is labor union membership (nonagricultural) as a percent of total labor. This factor is an indication of "the degree of unionization in the workforce and the relative impact of the unionized segment on labor rela-

### Table 1

| Factor | Weight |
|---|---|
| 1. State and local taxes | .135391 |
| 2. Percentage change in state and local taxes | .050000 |
| 3. State spending growth versus state income growth | .069899 |
| 4. State debt | .037154 |
| 5. State spending | .023929 |
| 6. Energy cost per million BTUs | .129723 |
| 7. Labor union membership | .117758 |
| 8. Average weekly manufacturing wage | .113350 |
| 9. Percentage change in average weekly manufacturing wage | .050000 |
| 10. Manhours lost per year | .079975 |
| 11. Workmen's compensation insurance rate | .086901 |
| 12. Average unemployment benefits paid | .054456 |
| 13. Net worth of state unemployment compensation trust fund | .047229 |
| 14. Maximum weekly payment for disability | .017003 |
| 15. Private pollution abatement expenditures as compared to industrial shipments | .034005 |
| 16. Private pollution abatement expenditures per capita | .013854 |
| 17. Vocational education expenditures | .033375 |
| 18. State disbursements for highways | .006297 |

### Table 2

| Description | High Score | Low Score | Value for Kansas | Rank of Kansas |
|---|---|---|---|---|
| 1. State and Local Taxes | $552.96 | $1,308.28 | $797.72 | 26 |
| 2. Percentage Change in State and Local Taxes | 3.28% | 22.13% | 9.64% | 23 |
| 3. State Spending Growth Versus State Income Growth | 0.03% | 2.83% | 0.21% | 3 |
| 4. State Debt | $406.53 | $2,738.34 | $1,243.06 | 30 |
| 5. State Spending | $959.57 | $1,844.52 | $1,286.96 | 24 |
| 6. Energy Costs per Million BTUs | $1.05 | $3.95 | $1.59 | 7 |
| 7. Labor Union Membership | 6.90% | 38.40% | 14.10% | 8 |
| 8. Average Weekly Manufacturing Wage | $205.82 | $389.40 | $298.03 | 35 |
| 9. Percentage Change in Average Weekly Manufacturing Wage | – 3.57% | 32.47% | 22.67% | 47 |
| 10. Manhours lost per Year | .48 | 145.75 | 7.06 | 19 |
| 11. Workmen's Compensation Insurance Rate | $0.41 | $5.00 | $0.93 | 11 |
| 12. Average Unemployment Benefits Paid | $35.46 | $224.70 | $67.75 | 15 |
| 13. Net Worth of State Unemployment Compensation Trust Fund | $449.23 | $ – 269.08 | $293.58 | 4 |
| 14. Maximum Weekly Payment for Disability | $87.50 | $353.19 | $148.00 | 11 |
| 15. Private Pollution Abatement Expenditures as Compared to Industrial Shipments | .056% | 1.319% | .266% | 15 |
| 16. Private Pollution Abatement Expenditures Per Capita | $1.31 | $84.35 | $16.96 | 27 |
| 17. Vocational Education Expenditures | $41.70 | $9.93 | $14.63 | 44 |
| 18. State Disbursements for Highways | $60.01 | $0.56 | $2.72 | 41 |
| Business Climate Score | 81.80 | 43.14 | 71.68 | 13 |

tions, productivity, and legislative and political power."[5] However, manufacturing industries tend to be more heavily unionized than service industries. Therefore, a state could have a low degree of unionization due to its industry mix. But, if the unions in the state are strong, for example the teamsters, then union strength or impact could greatly outweigh what the membership numbers would indicate. And, the reverse could be true: union membership could be high, as with a teacher's union, but actual union impact could be low.

A second example is the state disbursements for highways per highway mile (factor 18). This factor was intended to indicate "relative expenditures for highway maintenance and a measure of the quality of transportation, and thus [act] as one of the variables in quality of life."[6] Several factors determine the degree of maintenance needed for highways, one of which is weather. Comparing money spent on highway maintenance in, say, Iowa and Texas is, at the least, misleading. Using state spending on highways as a measure of a state's transportation system is probably even more misleading. Finally, as a factor in the whole quality of life issue, state spending for highways would probably rank low in most people's estimation.

The third limitation of the study is also the result of the methodology used. In particular, this limitation stems from the weighting process used to transform the values for the 18 factors into the business climate index. This process is based on the voting of 35 state manufacturer's associations. But the question arises as to how good a proxy is state manufacturer associations' opinions for the actual decision-making process that firms use to determine where they will locate. A newly-released study by The Council of State Planning Agencies casts doubts on the value of opinions by these associations.[7] Michael Barker, the Council's Director of Policy Studies noted: "In virtually every state, businesses and their trade associations make an annual pilgrimage to the state legislature in search of lower taxes and special investment incentives, and every time, they promise that this or that special tax cut will pay for itself through the stimulus it provides to private taxable activity."[8] However, the Council's study found that "most firms making new investments never consider investing in any state other than their final choice, seldom know about available investment incentives, and when they do, rarely attribute any importance to them."[9]

The state manufacturer associations polled for the Alexander Grant & Company study ranked state and local per capita taxes as the most important factor, and one of the two arbitrarily added factors by Alexander Grant & Company was percentage change in state and local taxes per capita (see Table I). Clearly, the study by The Council of State Planning Agencies raises doubts about the validity of polling state manufacturer associations as a proxy for location decisions made by firms.

**The real significance of the Alexander Grant & Company study for Kansans does not lie in what the study tells us about our state—most of this was already known. Rather, the study's great value arises from the questions it raises for Kansans about the future of their state.**

Of more importance, however, is a limitation inherent in the study's very intent: the study of state business climates from the point of view of manufacturing. Given this intention, the study's results should not be interpreted to mean that Kansas has the 13th best business climate; rather, Kansas has the 13th best business climate from the point of view of manufacturing. If other types of firms were setting criteria for measuring state business climates, they would not necessarily be concerned with the same factors as manufacturing firms. For example, a firm which sells a computer consulting service or a group of management consultants would not be particularly concerned with per capita pollution abatement costs or with labor union membership. Thus, Kansans should be aware that the results of this study may be relevant only to manufacturing firms.

One final way of evaluating the Alexander Grant & Company study is simply to compare growth in Kansas manufacturing with growth in United States manufacturing. In 1969, Kansas had 0.96 percent of the manufacturing establishments in the United States. From 1969 to 1976 (the latest data available), 0.81 percent of total manufacturing establishment births took place in Kansas. That is, Kansas fell relative to the rest of the country. In 1969, Kansas had 0.64 percent of the total United States employment in major manufacturing firms. From 1969 to 1976, Kansas had 0.62 percent of the employment in new major manufacturing establishments in the United States. Again, relative to the rest of the country, Kansas fell.[10] The data describe conditions up to 1976, whereas the Alexander Grant & Company study is for 1980. It is doubtful that the state's business climate could change so drastically or quickly from the condition described by the 1976 data and the condition implied by the study's ranking. This incongruous contrast is another reason to be skeptical of the ranking Kansas received from the Alexander Grant & Company study.

## Conclusions

Although the Alexander Grant & Company study does have limitations, there is one point that it does make fairly clear for Kansas: It is not the quantifiable factors which are preventing business from moving to Kansas. A possible extension of this conclusion is that quality of life factors prevent Kansas from attracting new business. Some of the quality of life factors that are hurting Kansas in its competition with its neighbors, for example the beauty of the Rocky Mountains, are outside the control of Kansans. Others are well within the control of Kansans.

The real significance of the Alexander Grant & Company study for Kansans does not lie in what the study tells us about our state—most of this was already known. Rather, the study's great value arises from the questions it raises for Kansans about the future of their state. First among these questions is whether we want to try to attract new industry. During the seventies, the Kansas economy performed quite well while attracting less than its share of new business. It is true that Kansas experienced a large flow of out migration during the seventies; however, those who remained in Kansas experienced a larger jump in their standard of living (as measured by per capita personal income) than the rest

**Thus, the type of industry Kansas attracts will directly affect the structure of the Kansas economy, and the impact of Kansas' policy toward industrial development will carry beyond the economic realm to the structure of Kansas society itself. These are extremely important decisions, and they are decisions which need to be debated now.**

of the nation. Another major result of the current structure of the Kansas economy is a lack of sensitivity to cyclical swings in the national economy. This lack of sensitivity is due in large part because Kansas does not have a large durable goods manufacturing sector (such as Michigan and Ohio). It also must be pointed out that there are numerous dangers ahead for Kansas if it choses to continue along its present path. A future article in *Kansas Business Review* will illuminate some of the problems that could lie ahead for Kansas if the state continues to simply cast its fate to the winds.

If Kansans do decide they want economic growth—that they do want to attract new industry—then Kansans must decide what type of industry they want to attract. As pointed out above, indiscriminate growth can lead to the kind of economic instability such as Michigan now faces. There is also a relationship between the type of industry attracted to Kansas and the structure of the Kansas labor force. For example, if Kansas should only attract industry which requires cheap, unskilled labor, then the new additions to the Kansas labor force are going to be primarily low wage, unskilled laborers. Thus, the type of industry Kansas attracts will directly affect the structure of the Kansas economy, and the impact of Kansas's policy toward industrial development will carry beyond the economic realm to the structure of Kansas society itself. These are extremely important decisions, and they are decisions which need to be debated now. Before Kansas can have a policy concerning industrial development, it must decide what type of development it wants.

**Appendix**

1. State and local taxes per capita. (Indicates the relative burden of taxation in the state.)
2. Percentage change in state and local taxes per capita. (Indicates the trend in the tax burden and the attitude of taxing authorities.)
3. State spending growth versus state income growth. (Indicates the ability of the states to match expenses to revenues and the attitude of legislatures in balancing the budget.)
4. State debt per capita. (Indicates the future tax burden and the threat of higher future taxes in a state.)
5. State spending per capita. (Indicates the spending tendencies of state governments, which measures the political climate and that climate's impact on the economy.)
6. Energy cost per million BTUs. (Indicates the cost of energy for the individual state.)
7. Labor union membership (non-agricultural) as a percent of total labor. (Indicates the degree of unionization in the work force and the relative impact of the unionized segment on labor relations, productivity, and legislative and political power.)
8. Average weekly manufacturing wage. (Indicates the relative level of wages and thus explores the relative cost of labor.)
9. Percentage change in average weekly manufacturing wage. (Indicates the yearly trend in wage rates which is a measure of the costs of doing business in the state.)
10. Manhours lost per year because of work stoppages per non-agricultural worker. (Indicates lost productivity and higher manufacturing costs due to labor problems.)
11. Workmen's compensation insurance rate per $100 of payroll on selected manufacturing occupations. (Indicates the relative cost of workmen's compensation for a state.)
12. Average unemployment benefits paid per covered worker per year. (Indicates the relative cost of unemployment compensation for the employer.)
13. Net worth of state unemployment compensation trust fund per covered worker. (Indicates the relative strength of the state unemployment compensation fund and the potential for increased unemployment insurance taxes for employers.)
14. Maximum weekly payment for temporary/total disability under workmen's compensation insurance assuming recipient earns the average manufacturing wage in the state. (Indicates the average maximum claim to be paid by the employer for temporary/total disability.)
15. Private pollution abatement expenditures as compared to the value of industrial shipments. (Indicates the cost of environmental control efforts relative to the amount of industry in the state.)
16. Private pollution abatement expenditures per capita. (Expresses the size of the pollution control effort as compared to the size of the population; the higher the cost, the greater its impact on the business climate.)
17. Vocational educational expenditures per capita. (Indicates the level of expenditures designed to maintain and improve the training of the work force.)
18. State disbursements for highways per highway mile. (Indicates relative expenditures for highway maintenance and serves as a measure of the quality of transportation, and thus as one of the variables in quality of life.)

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**Footnotes**

1. *A Study of Manufacturing Business Climate of the Forty-Eight Contiguous States of America*, 1980.
2. "Kansas' Business Climate: Is It Getting Better or Worse?" *Kansas Business News* (October, 1981):6.
3. *A Study*, p. 2.
4. *A Study*, p. 2.
5. *A Study*, p. 3
6. *A Study*, p. 5.
7. Michael Kieschnick, *Taxes and Growth: Business Incentives and Economic Development*, 1981.
8. Press release by the Council of State Planning Agencies, Washington, D.C., September 28, 1981.
9. Kieschnick, p. 1.
10. *Regional Growth: Interstate Tax Competition*, Advisory Commission of Intergovernmental Relations, Washington, D.C.: March 1981.

# The Kansas Economy

## General Business

The transition period from Carter to Reagan economic policies is over, and Reaganomics is upon us. The major policies of the Reagan administration have ushered in the following: a tax cut, effective on October 1; spending reductions, which are "trimming the fat" off federal spending and causing the reduction and/or elimination of many federal programs; and a gradual easing of governmental regulations designed to stimulate initiative and investment in the private sector.

The Federal Reserve's role in this scenario is somewhat problematic. The Fed has been following the Administration's line in so far that by keeping the growth in the money supply down since last December inflationary stimuli have been moderated. However, its restrictive monetary policy also has kept interest rates high, thereby discouraging investment and tending to raise the federal deficit, neither of which is desired by the Administration.

Both short-run and potential long-run problems in the Administration's supply-side scenario are causes for concern to the policy's opponents and proponents alike. For example, in the short run, the high interest rates resulting from the tight money policy have hurt the auto industry and other durable goods industries, and they have all but crushed the housing market. Sales of existing homes in August 1981 hit a six-year low. Seasonably adjusted, housing starts for the fourth quarter of 1981 are projected at 900,000—down nearly 60 percent from three and one-half years ago. However, the housing market is expected to rebound a bit as interest rates begin to drop; there appears to be a mild trend toward a gradual lowering of interest rates, which should continue throughout the remainder of 1981 and through the first part of 1982.

A potential problem in the Reagan economic program lies in the President's emphasis upon military spending. His advocacy of a strong military buildup could lead to larger-than-prudent federal deficits. As the government claims an increased share of available capital, a "crowding out" of private investment could occur. Nationally, the threat of "crowding out," as well as of larger deficits, has caused negative reactions from Wall Street and the bond markets. In addition, protests are loud and clear from advocates of existing social programs who are reluctant to support cuts in those programs without some reciprocal sacrifice from the Defense Department.

It seems clear, then, that the political realities of compromise and tradeoffs will enter the picture. There appears to be a recognition that some sort of additional cuts are needed—cuts that will probably come from the Pentagon budget.

Forecasters predict sluggish economic growth in the near future. The negative growth figures for GNP in the second and third quarters and recently increased inventories confirm that the nation is in a recession. Consensus opinion holds that slow growth rates will continue into 1982 but that economic activity should pick up as interest rates drop in the second half of the year. The brightest spot in these predictions is that inflation should continue to decline.

After suffering a mild recession of its own in the last eight months of 1980, the Kansas economy has rebounded to some extent in 1981. Initial claims for unemployment have dropped significantly during the spring and early summer of 1981, as compared to the same period in 1980. Unemployment statewide during the spring and summer of 1981 averaged about a percentage point less than during the 1980 period. Since April of 1981, there has been a growth in nonagricultural wage and salary employment over the previous year and over 1979, the best year in Kansas history.

The rebound, however, is not complete. Unemployment in Kansas is still running about a half a percentage point above the 1979 level. In addition, the average weekly manufacturing wage is only about 8.5 percent higher than a year ago—slightly less than the inflation rate, indicating that real wages for Kansas manufacturing workers have fallen.

Kansas' economic future under the Reagan administration could be dramatically affected in two areas and minimally affected in another. In the latter case, given the state's relatively strong economy, the cutting of social programs will be felt in Kansas but less so than in the rest of the nation. In the former case, a strong positive impact could be felt in Kansas from the military build-up, whereas the Administration's austere farm bill may have a negative effect on Kansas farmers. Hardest hit will be dairy subsidies. However, because dairying is not a major Kansas industry, that impact will be less severe in Kansas than in other midwestern states. Wheat support levels are also likely to be restricted, but that action's effect will depend upon conditions in the wheat market, particularly upon the uncertain export market.

## Employment

The employment picture in Kansas has improved since the spring. Nonfarm wage and salary employment is higher than for the same period in 1980, and unemployment in June and July of 1981 was about one percent less than last year's figures.

Most employment sectors have experienced either slight gains in employment or have remained at last year's levels. However, employment in contract construction has fallen dramatically over the past couple of years. For April through July of 1981, employment in contract construction averaged 10.4 percent less than in April through July of 1980, and 17.1 percent less than for the same period in 1979. The apparent trend toward lower interest rates may help to stimulate the sagging construction industry.

Reflecting a global phenomenon of the past several years is the significant and steady increase in Kansas mining employment, specifically in the area of oil and gas extraction. Mining employment for April through July averaged 8.9 percent higher in 1981 than in 1980, and, in oil and gas extraction employment, figures were up 12.0 percent in 1981 over 1980.

The steady decline throughout the spring and early summer in federal government employment is largely due to the Reagan budget cuts and the proposed 75,000 employee cutback in the federal labor force.

In general, most regions of the state displayed a significant decline in the unemployment rate during the spring and early summer of 1981, as reflected in Table II. There were a few exceptions, however. For example, the Lawrence and Topeka SMSAs had no decline in their unemployment rate, and the Reno County (the Hutchinson area) rate was about 1.0 percent higher than the previous year due to last fall's aircraft plant closing.

During the spring and summer of 1981, the Crawford County (the Pittsburg area) economy experienced a downturn, reflective in part of a labor-management dispute in the mining sector (which has since been settled). In addition, the area's manufacturing employment in both durable and nondurable goods declined, although employment in these sectors is expected to pick up somewhat.

A remarkable recovery has occurred in the Montgomery County economy following last year's slump. The unemployment rate dropped over 2.0 percent from last year.

## Retail Sales

Given the general weakness in the national economy, retail sales have held up adequately both nationally and in Kansas. From April through July, Kansas retail sales averaged slightly more than 13 percent above the previous year—3.0 percent in real terms (counting inflation). The greatest increase for the same period was in manufacturing and trading, which grew at an average of 27.1 percent over the previous year.

The four leading retail trade centers in Kansas fared less well. Upon comparing the April-through-July period of 1981 with that of 1980, slight increases emerged. Johnson County retail sales increased only 10.6 percent; Wyandotte County, 5.1 percent; Shawnee County, 3.5 percent; and Sedgwick County, 10.5 percent—all below the state average and all either negligible or negative in real terms.

Several of the medium-sized retail trade centers had similar patterns of slow growth using the same comparative measure, but others exhibited enormous growth. In the slow growth category are Reno County (the Hutchinson area), with an average increase of only 9.9 percent, and Saline County (the Salina area), at 8.7 percent. Medium-sized trade centers with strong growth are Barton County (the Great Bend area), with an average increase of 39.6 percent, and Ellis County (the Hays area), 25.8 percent.

## Farm Prices

Prices for grains reached their peak last fall and winter and, subsequently, have gradually fallen. In October 1980, wheat, sorghum, and soybean prices all peaked and then fell 13.1 percent, 10.1 percent, and 15.5 percent, respectively (although soybean prices rebounded 4.8 percent in July). Corn prices reached their peak in December 1980, then fell 3.2 percent. Hay prices peaked in March 1981 and have since fallen 18.1 percent.

Grain prices have probably bottomed-out, but changes in price will depend, in part, on the international demand for grain.

Livestock prices have not moved in a consistent manner, and, at this point, future trends seem uncertain. The prices of beef cattle and calves were down throughout the spring and early summer, while hog and sheep prices increased over the past several months. Lamb prices were on the increase until June 1981, when they experienced an 11 percent drop during the month. Milk prices held fairly steady over the spring and summer.

Concurrent with the gradual decline in grain prices was a similar decline, or a holding pattern, in the prices paid by farmers for feed. Beef concentrate, 16 percent dairy feed, and hog concentrate prices have been declining for the past several months. Soybean meal, bran, and laying feed prices have generally remained steady in recent months, although the price of bran rose 2.3 percent from June to July of 1981.

## Financial Activity

The uniqueness of the current banking situation creates difficulties in the interpretation of banking data. Two main factors contribute to the confusion. First, record interest rates remain stubbornly high. Secondly, although the changing rules and regulations have allowed banks more flexibility in obtaining funds, they have also driven up fund prices, thus adding to the cost of available loan money.

Data from member banks present a similarly confused picture. Loans for member banks statewide have been increasing gradually over the past year, but their rate of increase is only 6.7 percent from July 1980, much less than the annual rate of inflation. Of the regional banking centers in Kansas, only Wichita has experienced a substantial increase in loans since July of last year—9.8 percent. Meanwhile, loans declined in both Topeka and Kansas City, Kansas during the same period.

The higher interest rates now available for time and savings deposits have produced a gradual shift away from demand deposits. This trend toward time and savings deposits has been building over the past couple of years and, on a statewide basis, has produced a 5.7 percent increase in the combination of demand deposits and time and savings deposits for member banks. The only regional center to experience a similar increase—5.4 percent—was, again, Wichita, while both Topeka and Kansas City, Kansas member banks suffered a decline of deposits over the past year. In general, across the state, the loan-to-deposit ratio has increased.

Savings and loan institutions continue on the downhill trend of the last two years. Net new savings have been negative for the past five months, and, due to continuing high interest rates, the number of mortgage loans made has remained low.

TABLE I
GENERAL BUSINESS INDICATORS

| | July 1981 | June 1981 | % change | Avg. Prior 6 mos | Annual Avg. 1980 |
|---|---|---|---|---|---|
| Manufacturing | | | | | |
| Average Work Week (hrs.) | 39.3 | 40.3 | -2.5 | 40.6 | 40.4 |
| Average Weekly Earnings (dollars) | 317.15 | 318.77 | -0.5 | 315.74 | 0.0 |
| Initial Claims for Unemployment Insurance | 10,436 | 10,136 | 3.0 | 10,534 | 13,811 |
| New Incorporations | | | | | |
| In-state for Profit | 386 | 495 | -22.0 | 416 | 425 |
| Out-of-state | 129 | 129 | 0.0 | 126 | 99 |

Source: Research and Analysis Section
Division of Staff Services
Kansas Department of Human Resources

Kansas Secretary of State

## TABLE II
## NON-FARM WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK
(thousands)

| INDUSTRY | July 1981 | June 1981 | % change | July 1980 | % change |
|---|---|---|---|---|---|
| ALL INDUSTRIES | 945.8 | 962.0 | -1.7 | 935.9 | 1.1 |
| Manufacturing | 186.1 | 186.8 | -0.4 | 184.0 | 1.1 |
| Durable Goods | 118.8 | 119.2 | -0.3 | 117.4 | 1.2 |
| Stone,Clay,Glass | 7.3 | 7.3 | 0.0 | 7.5 | -2.7 |
| Primary Metals | 3.0 | 3.0 | 0.0 | 3.7 | -18.9 |
| Fabricated Metal Products | 11.9 | 12.0 | -0.8 | 12.0 | -0.8 |
| Machinery (incl. elec.) | 34.4 | 34.4 | 0.0 | 33.9 | 1.5 |
| Transportation Equipment | 49.7 | 50.0 | -0.6 | 48.9 | 1.6 |
| Aircraft & Parts | 42.2 | 42.4 | -0.5 | 40.6 | 3.9 |
| Other Durable Goods | 12.5 | 12.5 | 0.0 | 11.4 | 9.6 |
| Nondurable Goods | 67.3 | 67.6 | -0.4 | 66.6 | 1.1 |
| Food & Kindred Products | 23.7 | 23.0 | 3.0 | 23.0 | 3.0 |
| Meat Products | 9.4 | 9.2 | 2.2 | 9.0 | 4.4 |
| Apparel | 3.5 | 3.5 | 0.0 | 3.3 | 6.1 |
| Printing & Publishing | 16.0 | 16.2 | -1.2 | 16.6 | -3.6 |
| Chemicals | 8.5 | 8.8 | -3.4 | 8.6 | -1.2 |
| Petroleum & Coal | 5.0 | 5.1 | -2.0 | 5.2 | -3.8 |
| Other Nondurable | 10.6 | 10.7 | -0.9 | 9.9 | 7.1 |
| Mining | 17.1 | 17.2 | -0.6 | 15.9 | 7.5 |
| Oil & Gas Extraction | 15.3 | 15.3 | 0.0 | 13.8 | 10.9 |
| Contract Construction | 44.5 | 44.7 | -0.4 | 49.1 | -9.4 |
| Trans.,Comm.,Elec.,Gas | 65.9 | 66.0 | -0.2 | 63.9 | 3.1 |
| Wholesale Trade | 67.3 | 67.4 | -0.1 | 66.4 | 1.4 |
| Retail Trade | 162.0 | 163.9 | -1.2 | 158.9 | 2.0 |
| Finance,Insurance,Real Estate | 48.2 | 48.3 | -0.2 | 47.7 | 1.0 |
| Services | 179.5 | 180.0 | -0.3 | 173.1 | 3.7 |
| Federal Government | 26.8 | 26.9 | -0.4 | 27.4 | -2.2 |
| State & Local Government | 148.4 | 160.8 | -7.7 | 149.5 | -0.7 |

Source: Research and Analysis Section
Division of Staff Services
Kansas Department of Human Resources

TABLE III
EMPLOYMENT - UNEMPLOYMENT DATA FOR KANSAS, STATE AND AREAS

| Area | July 1981 | June 1981 | % change | July 1980 | % change |
|---|---|---|---|---|---|
| Kansas - Statewide | | | | | |
| Civilian Labor Force | 1,227,200 | 1,245,300 | -1.5 | 1,232,600 | -0.4 |
| Employed | 1,184,000 | 1,199,900 | -1.3 | 1,178,200 | 0.5 |
| Farm | 78,500 | 79,300 | -1.0 | 80,300 | -2.2 |
| Non-Farm | 1,105,500 | 1,120,600 | -1.3 | 1,097,900 | 0.7 |
| Unemployed | 43,200 | 45,400 | -4.8 | 54,400 | -20.6 |
| Rate | 3.5% | 3.6% | | 4.4% | |
| Lawrence SMSA | | | | | |
| Civilian Labor Force | 32,900 | 33,600 | -2.1 | 33,900 | -2.9 |
| Employed | 31,400 | 32,100 | -2.2 | 32,400 | -3.1 |
| Farm | 1,000 | 1,000 | 0.0 | 1,000 | 0.0 |
| Non-Farm | 30,400 | 31,100 | -2.3 | 31,400 | -3.2 |
| Unemployed | 1,500 | 1,500 | 0.0 | 1,500 | 0.0 |
| Rate | 4.6% | 4.5% | | 4.4% | |
| Kansas portion of Kansas City SMSA | | | | | |
| Civilian Labor Force | 270,900 | 274,600 | -1.3 | 275,000 | -1.5 |
| Employed | 259,800 | 262,700 | -1.1 | 262,300 | -1.0 |
| Farm | 1,700 | 1,700 | 0.0 | 1,800 | -5.6 |
| Non-Farm | 258,100 | 261,000 | -1.1 | 260,500 | -0.9 |
| Unemployed | 11,000 | 11,900 | -7.6 | 12,700 | -13.4 |
| Rate | 4.1% | 4.3% | | 4.6% | |
| Topeka SMSA | | | | | |
| Civilian Labor Force | 95,100 | 96,100 | -1.0 | 97,000 | -2.0 |
| Employed | 90,500 | 91,400 | -1.0 | 92,000 | -1.6 |
| Farm | 2,300 | 2,300 | 0.0 | 2,400 | -4.2 |
| Non-Farm | 88,200 | 89,100 | -1.0 | 89,600 | -1.6 |
| Unemployed | 4,600 | 4,700 | -2.1 | 5,000 | -8.0 |
| Rate | 4.8% | 4.9% | | 5.2% | |
| Wichita SMSA | | | | | |
| Civilian Labor Force | 227,600 | 229,400 | -0.8 | 228,800 | -0.5 |
| Employed | 219,300 | 220,700 | -0.6 | 218,600 | 0.3 |
| Farm | 3,200 | 3,200 | 0.0 | 3,200 | 0.0 |
| Non-Farm | 216,100 | 217,500 | -0.6 | 215,400 | 0.3 |
| Unemployed | 8,300 | 8,700 | -4.6 | 10,200 | -18.6 |
| Rate | 3.6% | 3.8% | | 4.5% | |
| Barton Co. - Great Bend Area | | | | | |
| Civilian Labor Force | 18,375 | 18,725 | -1.9 | 17,975 | 2.2 |
| Employed | 17,925 | 18,325 | -2.2 | 17,400 | 3.0 |
| Farm | 1,150 | 1,175 | -2.1 | 1,175 | -2.1 |
| Non-Farm | 16,775 | 17,150 | -2.2 | 16,225 | 3.4 |
| Unemployed | 450 | 400 | 12.5 | 575 | -21.7 |
| Rate | 2.4% | 2.1% | | 3.2% | |

TABLE III
EMPLOYMENT - UNEMPLOYMENT DATA FOR KANSAS, STATE AND AREAS

| Area | July 1981 | June 1981 | % change | July 1980 | % change |
|---|---|---|---|---|---|
| Crawford Co. - Pittsburg Area | | | | | |
| Civilian Labor Force | 16,700 | 17,050 | -2.1 | 16,600 | 0.6 |
| Employed | 15,650 | 16,000 | -2.2 | 15,700 | -0.3 |
| Farm | 1,050 | 1,050 | 0.0 | 1,075 | -2.3 |
| Non-Farm | 14,600 | 14,950 | -2.3 | 14,625 | -0.2 |
| Unemployed | 1,050 | 1,050 | 0.0 | 900 | 16.7 |
| Rate | 6.3% | 6.2% | | 5.4% | |
| Lyon Co. - Emporia Area | | | | | |
| Civilian Labor Force | 17,325 | 17,600 | -1.6 | 17,275 | 0.3 |
| Employed | 16,700 | 16,900 | -1.2 | 16,600 | 0.6 |
| Farm | 1,025 | 1,050 | -2.4 | 1,050 | -2.4 |
| Non-Farm | 15,675 | 15,850 | -1.1 | 15,550 | 0.8 |
| Unemployed | 625 | 700 | -10.7 | 675 | -7.4 |
| Rate | 3.6% | 4.0% | | 3.9% | |
| Montgomery Co. - Coffeyville Area | | | | | |
| Civilian Labor Force | 21,875 | 22,075 | -0.9 | 21,100 | 3.7 |
| Employed | 21,025 | 21,225 | -0.9 | 19,725 | 6.6 |
| Farm | 750 | 750 | 0.0 | 750 | 0.0 |
| Non-Farm | 20,275 | 20,475 | -1.0 | 18,975 | 6.9 |
| Unemployed | 850 | 850 | 0.0 | 1,375 | -38.2 |
| Rate | 3.9% | 3.9% | | 6.5% | |
| Reno Co. - Hutchinson Area | | | | | |
| Civilian Labor Force | 29,825 | 30,225 | -1.3 | 31,700 | -5.9 |
| Employed | 28,250 | 28,525 | -1.0 | 30,075 | -6.1 |
| Farm | 1,650 | 1,650 | 0.0 | 1,700 | -2.9 |
| Non-Farm | 26,600 | 26,875 | -1.0 | 28,375 | -6.3 |
| Unemployed | 1,575 | 1,700 | -7.4 | 1,625 | -3.1 |
| Rate | 5.3% | 5.6% | | 5.1% | |
| Riley Co. - Manhattan Area | | | | | |
| Civilian Labor Force | 19,725 | 20,275 | -2.7 | 20,475 | -3.7 |
| Employed | 18,900 | 19,375 | -2.5 | 19,475 | -3.0 |
| Farm | 1,300 | 1,325 | -1.9 | 1,350 | -3.7 |
| Non-Farm | 17,600 | 18,050 | -2.5 | 18,125 | -2.9 |
| Unemployed | 825 | 900 | -8.3 | 1,000 | -17.5 |
| Rate | 4.2% | 4.4% | | 4.9% | |
| Saline Co. - Salina Area | | | | | |
| Civilian Labor Force | 26,525 | 26,950 | -1.6 | 26,225 | 1.1 |
| Employed | 25,300 | 25,650 | -1.4 | 24,800 | 2.0 |
| Farm | 875 | 875 | 0.0 | 900 | -2.8 |
| Non-Farm | 24,425 | 24,775 | -1.4 | 23,900 | 2.2 |
| Unemployed | 1,225 | 1,300 | -5.8 | 1,425 | -14.0 |
| Rate | 4.6% | 4.8% | | 5.4% | |

Source: Research and Analysis Section
Division of Staff Services
Kansas Department of Human Resources

TABLE IV
RETAIL SALES SUBJECT TO SALES TAX
BY BUSINESS CLASSIFICATION
(millions of dollars)

| Business Classification | July* 1981 | Apr * 1981 | % change | July* 1980 | % change |
|---|---|---|---|---|---|
| Apparel | 31.2 | 30.7 | 1.6 | 27.8 | 12.2 |
| Automotive | 206.6 | 188.3 | 9.7 | 195.0 | 5.9 |
| Food | 267.3 | 266.0 | 0.5 | 252.1 | 6.0 |
| Furniture | 45.9 | 45.2 | 1.5 | 42.6 | 7.7 |
| General Merchandise | 161.3 | 164.6 | -2.0 | 146.5 | 10.1 |
| Lumber And Building Material | 92.7 | 82.7 | 12.1 | 85.4 | 8.5 |
| Professional And Personal Service | 48.5 | 45.3 | 7.1 | 43.8 | 10.7 |
| Public Utilities | 53.4 | 52.2 | 2.3 | 48.2 | 10.8 |
| Unclassified | 110.2 | 101.4 | 8.7 | 111.3 | -1.0 |
| Farm And Garden Products | 1.0 | 1.0 | 0.0 | 0.9 | 11.1 |
| Manufacture And Trading | 100.7 | 88.1 | 14.3 | 85.8 | 17.4 |
| Miscellaneous | 1.6 | 5.0 | -68.0 | 2.9 | -44.8 |
| TOTAL | 1120.9 | 1071.0 | 4.7 | 1042.8 | 7.5 |

* Monthly Average for Prior Three Months

Source: Tax Research Section
Kansas Department of Revenue

TABLE V
RETAIL SALES SUBJECT TO SALES TAX BY COUNTY
(thousands of dollars)

| County | Sales * July 1981 | Sales * Apr 1981 | Change From Apr 1981 (%) | Sales * July 1980 | Change From July 1980 (%) |
|---|---|---|---|---|---|
| Allen | 5,459 | 5,294 | 3.1 | 4,999 | 9.2 |
| Anderson | 2,259 | 2,004 | 12.7 | 2,455 | -8.0 |
| Atchison | 4,858 | 4,591 | 5.8 | 4,664 | 4.2 |
| Barber | 2,991 | 2,641 | 13.2 | 2,693 | 11.1 |
| Barton | 35,022 | 34,963 | 0.2 | 27,554 | 27.1 |
| Bourbon | 5,084 | 5,073 | 0.2 | 5,572 | -8.8 |
| Brown | 3,405 | 3,229 | 5.4 | 3,417 | -0.4 |
| Butler | 18,468 | 16,386 | 12.7 | 16,558 | 11.5 |
| Chase | 679 | 679 | -0.1 | 725 | -6.4 |
| Chautauqua | 1,550 | 1,564 | -0.9 | 1,213 | 27.7 |
| Cherokee | 4,520 | 4,024 | 12.3 | 4,128 | 9.5 |
| Cheyenne | 1,329 | 1,240 | 7.2 | 1,349 | -1.5 |
| Clark | 642 | 578 | 11.1 | 560 | 14.8 |
| Clay | 2,867 | 2,701 | 6.1 | 2,946 | -2.7 |
| Cloud | 4,320 | 4,173 | 3.5 | 4,577 | -5.6 |
| Coffey | 2,062 | 1,973 | 4.6 | 2,337 | -11.8 |
| Comanche | 671 | 613 | 9.5 | 678 | -1.1 |
| Cowley | 14,198 | 14,899 | -4.7 | 14,141 | 0.4 |
| Crawford | 12,531 | 12,090 | 3.7 | 12,598 | -0.5 |
| Decatur | 1,853 | 1,815 | 2.1 | 1,483 | 25.0 |
| Dickinson | 5,563 | 5,057 | 10.0 | 5,749 | -3.2 |
| Doniphan | 2,123 | 1,465 | 44.9 | 1,994 | 6.5 |
| Douglas | 24,886 | 23,548 | 5.7 | 22,800 | 9.1 |
| Edwards | 1,339 | 1,052 | 27.2 | 1,089 | 22.9 |
| Elk | 595 | 580 | 2.6 | 622 | -4.2 |
| Ellis | 15,502 | 15,113 | 2.6 | 13,396 | 15.7 |
| Ellsworth | 1,772 | 1,668 | 6.2 | 1,886 | -6.1 |
| Finney | 18,997 | 18,029 | 5.4 | 16,250 | 16.9 |
| Ford | 15,469 | 15,157 | 2.1 | 14,411 | 7.3 |
| Franklin | 6,947 | 5,896 | 17.8 | 6,495 | 7.0 |
| Geary | 10,451 | 8,887 | 17.6 | 9,108 | 14.7 |
| Gove | 1,319 | 1,340 | -1.6 | 1,285 | 2.6 |
| Graham | 1,934 | 1,624 | 19.1 | 1,891 | 2.3 |
| Grant | 4,143 | 3,963 | 4.5 | 3,876 | 6.9 |
| Gray | 1,764 | 1,521 | 16.0 | 1,640 | 7.5 |
| Greeley | 558 | 453 | 23.4 | 653 | -14.4 |
| Greenwood | 3,409 | 2,727 | 25.0 | 3,244 | 5.1 |
| Hamilton | 747 | 573 | 30.4 | 740 | 1.0 |
| Harper | 3,256 | 2,823 | 15.3 | 3,116 | 4.5 |
| Harvey | 9,635 | 9,809 | -1.8 | 9,633 | 0.0 |
| Haskell | 1,183 | 1,057 | 11.9 | 1,156 | 2.3 |
| Hodgeman | 356 | 340 | 4.6 | 389 | -8.4 |
| Jackson | 2,240 | 2,181 | 2.7 | 2,122 | 5.6 |
| Jefferson | 2,731 | 2,201 | 24.1 | 2,539 | 7.6 |
| Jewell | 1,045 | 864 | 20.9 | 961 | 8.7 |
| Johnson | 133,791 | 129,033 | 3.7 | 126,711 | 5.6 |
| Kearny | 723 | 676 | 7.0 | 662 | 9.2 |
| Kingman | 2,655 | 2,417 | 9.8 | 2,770 | -4.2 |

TABLE V
RETAIL SALES SUBJECT TO SALES TAX BY COUNTY
(thousands of dollars)

| County | Sales * July 1981 | Sales * Apr 1981 | Change From Apr 1981 (%) | Sales * July 1980 | Change From July 1980 (%) |
|---|---|---|---|---|---|
| Kiowa | 1,485 | 1,395 | 6.4 | 1,524 | -2.6 |
| Labette | 8,000 | 7,635 | 4.8 | 7,575 | 5.6 |
| Lane | 764 | 614 | 24.4 | 886 | -13.8 |
| Leavenworth | 12,524 | 11,399 | 9.9 | 11,864 | 5.6 |
| Lincoln | 1,007 | 976 | 3.1 | 1,166 | -13.7 |
| Linn | 1,588 | 1,445 | 9.8 | 1,529 | 3.8 |
| Logan | 1,647 | 1,604 | 2.7 | 1,736 | -5.1 |
| Lyon | 14,445 | 15,035 | -3.9 | 13,537 | 6.7 |
| McPherson | 11,444 | 10,248 | 11.7 | 10,140 | 12.9 |
| Marion | 3,847 | 3,357 | 14.6 | 3,943 | -2.4 |
| Marshall | 3,853 | 3,811 | 1.1 | 3,816 | 1.0 |
| Meade | 1,715 | 1,378 | 24.4 | 1,417 | 21.0 |
| Miami | 6,757 | 6,431 | 5.1 | 5,994 | 12.7 |
| Mitchell | 3,260 | 3,265 | -0.1 | 3,640 | -10.4 |
| Montgomery | 18,161 | 17,342 | 4.7 | 16,035 | 13.3 |
| Morris | 1,359 | 1,351 | 0.6 | 1,601 | -15.1 |
| Morton | 1,502 | 1,387 | 8.3 | 1,565 | -4.0 |
| Nemaha | 3,136 | 2,815 | 11.4 | 3,277 | -4.3 |
| Neosho | 10,927 | 9,642 | 13.3 | 8,254 | 32.4 |
| Ness | 2,362 | 2,252 | 4.9 | 2,129 | 10.9 |
| Norton | 2,207 | 2,142 | 3.0 | 2,232 | -1.1 |
| Osage | 3,146 | 2,554 | 23.2 | 3,256 | -3.4 |
| Osborne | 1,822 | 1,649 | 10.5 | 1,883 | -3.2 |
| Ottawa | 1,181 | 1,004 | 17.6 | 1,149 | 2.7 |
| Pawnee | 3,811 | 3,292 | 15.8 | 3,096 | 23.1 |
| Phillips | 2,564 | 2,497 | 2.7 | 2,406 | 6.5 |
| Pottawatomie | 5,726 | 4,891 | 17.1 | 4,636 | 23.5 |
| Pratt | 6,155 | 5,475 | 12.4 | 5,567 | 10.6 |
| Rawlins | 1,340 | 985 | 36.0 | 891 | 50.4 |
| Reno | 30,417 | 29,700 | 2.4 | 29,638 | 2.6 |
| Republic | 2,186 | 2,096 | 4.3 | 2,408 | -9.2 |
| Rice | 3,856 | 3,453 | 11.6 | 3,548 | 8.7 |
| Riley | 15,783 | 15,556 | 1.5 | 15,063 | 4.8 |
| Rooks | 5,766 | 5,381 | 7.2 | 4,891 | 17.9 |
| Rush | 1,428 | 1,545 | -7.6 | 1,466 | -2.6 |
| Russell | 6,994 | 6,777 | 3.2 | 5,879 | 19.0 |
| Saline | 28,330 | 27,255 | 3.9 | 27,137 | 4.4 |
| Scott | 2,657 | 2,489 | 6.7 | 2,690 | -1.2 |
| Sedgwick | 217,247 | 205,441 | 5.7 | 202,165 | 7.5 |
| Seward | 14,942 | 13,256 | 12.7 | 12,669 | 17.9 |
| Shawnee | 71,555 | 69,348 | 3.2 | 73,521 | -2.7 |
| Sheridan | 1,097 | 1,064 | 3.1 | 1,349 | -18.6 |
| Sherman | 4,137 | 3,772 | 9.7 | 4,088 | 1.2 |
| Smith | 1,833 | 1,651 | 11.0 | 1,922 | -4.6 |
| Stafford | 1,882 | 1,929 | -2.5 | 2,074 | -9.3 |
| Stanton | 851 | 689 | 23.4 | 735 | 15.8 |
| Stevens | 1,809 | 1,559 | 16.0 | 1,492 | 21.2 |
| Sumner | 6,241 | 6,291 | -0.8 | 6,408 | -2.6 |

| | | | | | |
|---|---|---|---|---|---|
| Thomas | 4,818 | 4,481 | 7.5 | 4,534 | 6.3 |
| Trego | 1,504 | 1,290 | 16.6 | 1,447 | 3.9 |
| Wabunsee | 933 | 913 | 2.2 | 983 | -5.1 |
| Wallace | 569 | 603 | -5.7 | 590 | -3.5 |
| Washington | 1,673 | 1,664 | 0.5 | 1,919 | -12.8 |
| Wichita | 1,526 | 1,713 | -10.9 | 1,355 | 12.6 |
| Wilson | 2,880 | 2,937 | -1.9 | 2,767 | 4.1 |
| Woodson | 1,076 | 1,041 | 3.3 | 995 | 8.1 |
| Wyandotte | 60,761 | 56,190 | 8.1 | 59,901 | 1.4 |

Source: Tax Research Section
Kansas Department of Revenue

* Monthly Average for Prior Three Months

TABLE VI
PRICES RECEIVED BY KANSAS FARMERS
(dollars)

| Items | July 1981 | June 1981 | % change | July 1980 | % change | Annual Avg. 1980 |
|---|---|---|---|---|---|---|
| Prices Received by Farmers | | | | | | |
| Field Crops | | | | | | |
| Wheat (bu.) | 3.70 | 3.71 | -0.3 | 3.62 | 2.2 | 3.75 |
| Corn (bu.) | 3.32 | 3.37 | -1.5 | 2.92 | 13.7 | 2.85 |
| Sorghum (cwt.) | 4.98 | 5.07 | -1.8 | 4.86 | 2.5 | 4.55 |
| Hay (ton) | 59.00 | 63.00 | -6.3 | 48.00 | 22.9 | 54.92 |
| Soybeans (bu.) | 7.02 | 6.70 | 4.8 | 6.69 | 4.9 | 6.64 |
| Livestock & Products | | | | | | |
| Beef Cattle (cwt.) | 55.70 | 57.40 | -3.0 | 64.70 | -13.9 | 64.73 |
| Calves (cwt.) | 60.60 | 62.80 | -3.5 | 70.10 | -13.6 | 75.86 |
| Hogs (cwt.) | 48.30 | 47.80 | 1.0 | 40.40 | 19.6 | 37.92 |
| Lambs (cwt.) | 58.90 | 66.20 | -11.0 | 67.20 | -12.4 | 63.66 |
| Sheep (cwt.) | 24.70 | 22.50 | 9.8 | 18.50 | 33.5 | 22.77 |
| Milk (cwt.) | 13.60 | 13.60 | 0.0 | 12.40 | 9.7 | 13.05 |
| Prices Paid by Farmers | | | | | | |
| Soybean Meal (cwt.) | 14.00 | 14.00 | 0.0 | 11.50 | 21.7 | 12.58 |
| Bran (cwt.) | 8.90 | 8.70 | 2.3 | 8.00 | 11.2 | 8.30 |
| Beef Conc. (cwt.) | 11.00 | 11.50 | -4.3 | 9.80 | 12.2 | 10.41 |
| 16% Dairy Feed (ton) | 192.00 | 195.00 | -1.5 | 167.00 | 15.0 | 174.58 |
| Hog Conc. (cwt.) | 15.00 | 15.50 | -3.2 | 14.00 | 7.1 | 14.65 |
| Laying Feed (ton) | 230.00 | 225.00 | 2.2 | 184.00 | 25.0 | 200.75 |

Source: Kansas Crop and Livestock Reporting Service
Kansas State Board of Agriculture
U. S. Department of Agriculture

## TABLE VII
## COMMERCIAL BANKING ACTIVITY FOR ALL BANKS
(millions of dollars)

| | July 1981 | June 1981 | % change | July 1980 | % change |
|---|---|---|---|---|---|
| **Kansas - Statewide** | | | | | |
| Loans | 7,712 | 7,948 | -3.0 | 7,884 | -2.2 |
| Demand Deposits | 3,459 | 3,503 | -1.3 | 3,956 | -12.6 |
| Time & Saving Deposits | 10,087 | 10,069 | 0.2 | 9,156 | 10.2 |
| Loan to Deposit Ratio | 56.9% | 58.6% | | 60.1% | |
| **Kansas city (Wyandotte)** | | | | | |
| Loans | 447 | 443 | 0.9 | 518 | -13.7 |
| Demand Deposits | 206 | 212 | -2.8 | 237 | -13.1 |
| Time & Saving Deposits | 595 | 475 | 25.3 | 615 | -3.3 |
| Loan to Deposit Ratio | 55.8% | 64.5% | | 60.8% | |
| **Topeka (Shawnee)** | | | | | |
| Loans | 462 | 471 | -1.9 | 473 | -2.3 |
| Demand Deposits | 259 | 257 | 0.8 | 279 | -7.2 |
| Time & Saving Deposits | 377 | 402 | -6.2 | 517 | -27.1 |
| Loan to Deposit Ratio | 72.6% | 71.5% | | 59.4% | |
| **Wichita (Sedgwick)** | | | | | |
| Loans | 1,301 | 1,307 | -0.5 | 1,162 | 12.0 |
| Demand Deposits | 770 | 798 | -3.5 | 813 | -5.3 |
| Time & Saving Deposits | 1,377 | 1,394 | -1.2 | 1,216 | 13.2 |
| Loan to Deposit Ratio | 60.6% | 59.6% | | 57.3% | |

Source: Research Department
Federal Reserve Bank of Kansas City
Institute for Economic and Business Research

TABLE VII-I
COMERCIAL AND BANKING ACTIVITY FOR MEMBER BANKS
(MILLION OF DOLLARS)

| | July 1981 | June 1981 | % CHANGE | July 1980 | % CHANGE |
|---|---|---|---|---|---|
| Kansas - Statewide | | | | | |
| Loans | 3,754 | 3,738 | 0.4 | 3,519 | 6.7 |
| Demand Deposits | 1,773 | 1,736 | 2.1 | 2,004 | -11.5 |
| Time & Saving Deposits | 4,527 | 4,497 | 0.7 | 3,958 | 14.4 |
| Loan to Deposit Ratio | 59.6% | 60.0% | | 59.0% | |
| Kansas City (Wyandotte) | | | | | |
| Loans | 199 | 199 | 0.0 | 200 | -0.5 |
| Demand Deposits | 98 | 99 | -1.0 | 110 | -10.9 |
| Time & Saving Deposits | 227 | 219 | 3.7 | 219 | 3.7 |
| Loan to Deposit Ratio | 61.2% | 62.6% | | 60.8% | |
| Topeka (Shawnee) | | | | | |
| Loans | 253 | 249 | 1.6 | 259 | -2.3 |
| Demand Deposits | 165 | 162 | 1.9 | 182 | -9.3 |
| Time & Saving Deposits | 208 | 210 | -1.0 | 277 | -24.9 |
| Loan to Deposit Ratio | 67.8% | 66.9% | | 56.4% | |
| Wichita (Sedgwick) | | | | | |
| Loans | 727 | 721 | 0.8 | 662 | 9.8 |
| Demand Deposits | 482 | 471 | 2.3 | 502 | -4.0 |
| Time & Saving Deposits | 668 | 672 | -0.6 | 589 | 13.4 |
| Loan to Deposit Ratio | 63.2% | 63.1% | | 60.7% | |

Source: Research Department
Federal Reserve Bank of Kansas City
Institute for Economic and Business Research

TABLE VIII
SAVINGS AND LOAN ACTIVITY
(thousands of dollars)

| | July 1981 | June 1981 | % change | July 1980 | % change |
|---|---|---|---|---|---|
| Net New Savings | -55,800 | -46,600 | 19.7 | 25,400 | -319.7 |
| Mortgage Loans Made | 68,300 | 77,700 | -12.1 | 71,700 | -4.7 |

Source: Federal Home Loan Bank of Topeka

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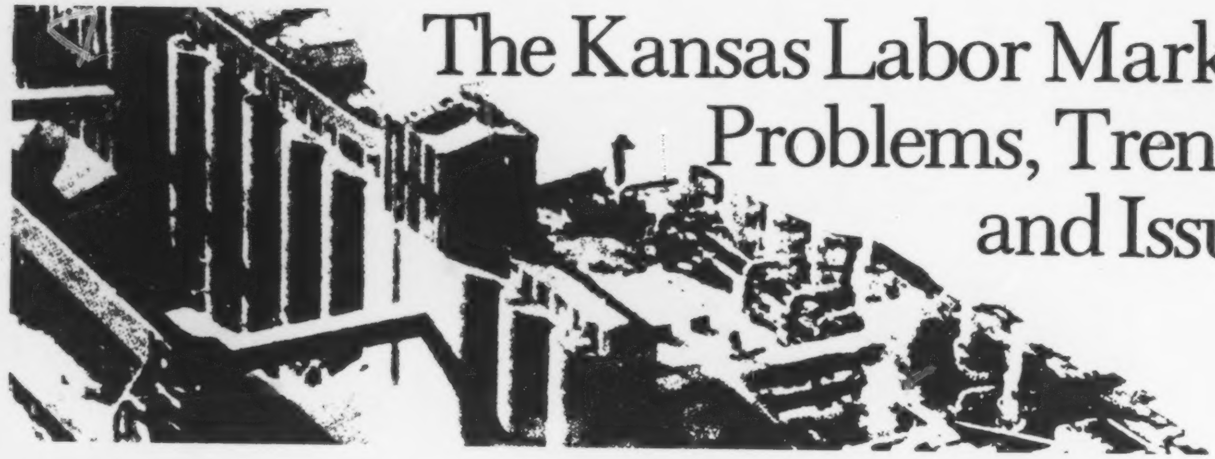

# The Kansas Labor Market: Problems, Trends, and Issues

**Anthony Redwood**
**Bharati Bhattacharyya**
**Morris Kleiner**

**Dr. Anthony Redwood is Director of the Institute for Economic and Business Research and an Associate Professor at the University of Kansas School of Business. Dr. Bharati Bhattacharyya is a Research Associate at IEBR. Dr. Morris Kleiner, an Associate Professor at the University of Kansas School of Business, is Director of the School's doctoral program and Director of the Institute's Labor Market Research Program.**

## Introduction

The nature and composition of Kansas' economic structure and population have undergone significant changes in recent decades. These changes have strongly affected the state's labor market and given rise to developments and trends that are likely to continue into the 1980s. These need to be recognized and addressed.

The purpose of this article is to provide an initial analysis of current and anticipated problems and issues in the Kansas labor market. The study consists of two major components: Section I, which describes salient trends and characteristics of the Kansas economy, population, and labor market; and Section II, which describes the dimensions and nature of seven problem areas concerning the labor force and poses issues for consideration by state decision-makers.

## I. The Kansas Economy and Labor Market

The structure of the Kansas economy has gradually changed since the early part of this century. Although still considered primarily agricultural, the Kansas economy has nevertheless exhibited characteristics of a national economic trend. As can be seen in the change in contribution of the different industrial sectors to the generation of civilian income from current production from 1960 to 1980 (Table 1), a simultaneous increase in manufacturing employment and decrease in farming employment has occurred. There has been a shift in importance— nationally and regionally—from farming to manufacturing, service, and construction.

**Table 1**
**Percentage of Civilian Income by Industries Received by Persons for Participation in Current Production in Some Selected Sectors**

| | 1960 | | 1970 | | 1980 | |
|---|---|---|---|---|---|---|
| | US | KS | US | KS | US | KS |
| Farm | 3.45 | 13.9 | 2.24 | 8.30 | 1.45 | 5.40 |
| Manufacturing | 22.63 | 18.9 | 19.68 | 13.70 | 16.37 | 15.30 |
| Service | 7.39 | 11.0 | 8.84 | 9.40 | 10.12 | 10.37 |
| Government | 11.67 | 12.2 | 13.70 | 14.20 | 11.68 | 10.87 |
| Trade | 11.49 | 20.0 | 11.18 | 12.20 | 10.51 | 11.99 |
| Construction | 3.97 | N.A. | 4.13 | N.A. | 3.50 | 4.48 |
| Other | 39.40 | 24.0 | 40.23 | 42.20 | 46.57 | 41.59 |
| Total | 100.00 | 100.0 | 100.00 | 100.00 | 100.00 | 100.00 |

Source: Bureau of Economic Analysis

The labor intensive agricultural base of the Kansas economy has undergone a change to a capital intensive form following rapid progress in the development of technology and an increase in the significance of such economic sectors as trade, service, and manufacturing. The percentage of state gross domestic product (GDP) contributed by the farming sector has declined from 13.05, in 1960, to 8.63, in 1980. (In 1970, the figure was 9.99.) The contribution by manufacturing for the nation as a whole is decreasing while that for the state is steadily increasing. Table 2 shows the contribution by sectors to gross national product for both Kansas and the United States.

Finally, the employment figures (Table 3) confirm the importance that manufacturing has assumed. Nationally, manufacturing employment has remained very strong until the last decade, when it started to fall off as a service employment grew. In Kansas, employment growth has been strongest in manufacturing, service, and trade, while the farming and government sectors have been losing their employment share. In general, the Kansas trend corresponds to the national trend, with the important excep-

## Table 2
## Kansas Gross Domestic Product by Industry (Percentage)

| | 1960 | 1970 | 1980 |
|---|---|---|---|
| Construction | 4.95 | 4.38 | 5.06 |
| Manufacturing | 19.08 | 19.48 | 20.20 |
| Trade | 15.33 | 17.38 | 17.11 |
| Services | 8.01 | 9.99 | 10.86 |
| Government | 13.07 | 14.74 | 11.33 |
| Farming | 13.05 | 9.99 | 8.63 |

Source: Kansas Department of Economic Development

## U.S. GDP by Industry (Percentage)

| | 1960 | 1970 | 1980 |
|---|---|---|---|
| Farming | 4.01 | 2.64 | 2.89 |
| Manufacturing | 28.57 | 25.59 | 24.0 |
| Government | 9.35 | 11.73 | 11.8 |

Source: *Survey of Current Business*

tion that neither manufacturing nor service employment has reached national averages as a percent of total employment.

The decline in the farming sector can also be explained by the slower growth in demand for farm products caused by a slower population growth rate and the resulting low income responsiveness of demand for farm products (i.e., as the economy grows, the demand for farm products declines relatively).

In spite of the manufacturing and service employment spurt of the last twenty years in Kansas, it would seem that its increase has still not been enough to offset the reduction in agricultural employment. Generally speaking, the rate of change in employment has fluctuated, and, for some periods, it is likely that the total gain in employment has been less than the total loss.

Compounding the problem is the fact that the main trend of development has been in old style manufacturing and not in higher technology industries. For the period 1967-1976, the manufacturing firms that accounted for a large percentage of increase in employment and output in Kansas have been the five following industrial categories: 1) machinery, 2) food and kindred products, 3) fabricated metal products, 4) transportation equipment, and 5) lumber and wood products. Since these industries are not expected to have high growth potential, the opportunities available for the future labor force in Kansas could be limited unless offset by growth in other manufacturing categories.

In summary, significant changes have occurred in the structure of the Kansas economy. The farm sector has diminished in importance, particularly as a provider of jobs. The expanding manufacturing and service sectors have barely offset this decline, and the manufacturing base is largely comprised of slow-growth industries.

### REGIONAL DISTRIBUTION OF THE STATE'S ECONOMIC ACTIVITY

The state's major economic activity centers are located in only twenty counties: Barton, Butler, Cowley, Crawford, Douglas, Ellis, Finney, Ford, Harvey, Johnson, Leavenworth, Lyon, McPherson, Montgomery, Reno, Riley, Saline, Sedgwick, Shawnee, and Wyandotte counties) where economic activities of importance occur on a statewide basis (as measured by employment and value of product). An economic center is determined by taking total state employment in an industrial sector and ascertaining which counties together comprise at least 75 percent of the employment of that sector. It should be noted that there are certain counties which are important just for one form of economic activity, e.g., agriculture or mining. Most of the economic activity centers are located in the northeast, central, or south central portion of the state.

The significant growth in the manufacturing sector of the Kansas economy was noted above. Although the major trend is not in high technology and development industries, the manufacturing growth is still a source of expansion and creation of employment opportunities. However, not all the regions of the state benefited equally from the growth of the manufacturing sector. Stronger industrial growth occurred in three areas of the state: 1) the northeast section (Shawnee, Douglas, Leavenworth, Wyandotte counties), 2) the southeastern section (Allen, Woodson, Wilson, Crawford, Labette, Cherokee, and Montgomery counties), and 3) the central section (Sedgwick, Butler, and Harvey counties). Greater numbers of new and expanded firms and jobs were developed in these areas.

### POPULATION

(1) **Growth:** Important features to be noted about population growth in Kansas are the following: a) Kansas has been experiencing a declining growth rate; b) as one of the slowest growing states, its growth rate is well below the U.S. average.

As indicated in Table 4, the growth rate of the Kansas population has lagged consistently and significantly behind that of the nation. The Kansas population growth rate is also lower than that of the surrounding states.

Kansas population as a percentage of U.S. population has declined from 1.93 percent in 1900 to 1.21 in 1960, 1.10 in 1970, and 1.04 in 1980. Given that Kansas has fertility and mortality rates similar to the national rates, the slow population growth can be attributed to net outmigration.

2) **Distribution:** The proportion of urban to rural population in the state has

## Table 3
## Percentage of Total Employment Contributed by Different Sectors

| | 1960 | | 1970 | | 1980 | |
|---|---|---|---|---|---|---|
| | US | KS | US | KS | US | KS |
| Farm | 9.72 | 14.2 | 5.99 | 9.02 | 4.34 | 5.48 |
| Manufacturing | 27.85 | 14.0 | 25.64 | 15.20 | 22.41 | 16.21 |
| Service | 11.33 | 8.4 | 15.40 | 11.64 | 19.76 | 14.68 |
| Government | 14.47 | 13.9 | 16.60 | 17.46 | 17.94 | 16.15 |
| Trade | 19.87 | 15.7 | 19.93 | 18.00 | 22.51 | 19.27 |
| Construction | 4.74 | N.A. | 4.68 | N.A. | 4.85 | 4.20 |
| Other | 12.02 | 33.8 | 11.76 | 28.68 | 8.19 | 24.00 |
| Total | 100.00 | 100.0 | 100.00 | 100.00 | 100.00 | 100.00 |

Source: Bureau of Labor Statistics

changed dramatically since the turn of the century. In 1900, the urban population of Kansas was 22.4 percent; by 1970, it was 66.1 percent, and in 1980 it was 66.7 percent. Associated with this increase has been a continued statewide redistribution of population resulting in a much higher population density in the eastern half of the state.

The Kansas population distribution can be effectively illustrated through a breakdown of counties into two broad classifications: 1) the **rural agriculture** counties which comprise 64 percent of Kansas counties (68 counties out of 105) but contain only 28 percent of the population; 2) the **urban, industrial crescent** which contains the remaining 35 percent of Kansas counties (38 counties) but also boasts 72 percent of the population.

The increased urbanization of Kansas has important implications for the Kansas labor market. The labor force, particularly youth and female labor, will have better job and career opportunities in urban locations.

3) **Migration:** The Kansas economy is affected by both interstate migration and intrastate migration. The number of net outmigrants during 1960-70 was 86,068 (– 3.8 percent), while that for 1970-80 was 31,617 (– 1.4 percent). Out of 11 planning regions of the state, only two, East Central and Flint Hills, had net inmigration during 1960-70, and only one region, Southeast, had inmigration during 1970-80.

An important feature to be noted about the migration pattern for Kansas is that, during 1960-70 and also during 1950-1960, there was huge outmigration of the younger population (25-40 years). Migration data by age are provided in Table 5. For 1960-70, median age of migrants (all sexes) was 25.3 years. The median age of female migrants (25.0 years) was lower than that of male outmigrants (25.5 years).

4) **Age Composition:** The basic population trend in Kansas and in the United States is toward an aging population. The Kansas population is older than that of the U.S., although less now than in previous years. The median age in Kansas rose to 30.1 years in 1980 from a median age of 28.7 years in 1970. In comparison, the U.S. median age was 30 years in 1980, while the 1970 figure was 28.1 years.

## Table 5
## Net Migration by Age Group in Kansas (1965-70)

| | Total | Male | Female |
|---|---|---|---|
| 15-19 | – 2,141 | – 1,004 | – 1,131 |
| 20-24 | 3,260 | 6,450 | – 3,190 |
| 25-29 | – 12,346 | – 7,399 | – 4,947 |
| 30-34 | – 4,703 | – 2,937 | – 1,766 |
| 35-39 | – 4,273 | – 2,034 | – 2,239 |
| 40-44 | – 3,290 | – 1,551 | – 1,739 |
| 45-49 | – 3,605 | – 1,891 | – 1,714 |
| 50-54 | – 1,986 | – 1,140 | – 846 |
| 55-59 | – 1,043 | – 487 | – 556 |
| 60-64 | – 1,170 | – 572 | – 598 |
| 65-over | – 2,034 | – 999 | – 1,035 |

Source: Bureau of Census

One aspect of concern is the proportion and distribution of population over 65. In Table 6, one can see that the percentage of people over 65 in Kansas is higher than the national average. Over 25 percent of the population in many counties of the state is over 65. A closer analysis of the population structure determines that, in 30 counties, over 20 percent of the population is in the 65-plus age group, and, in 68 counties, over 15 percent is in the 65-plus age group. This population group is increasing at a greater-than-average rate in the central and western sections of the state.

In Table 7, we also observe that the median age in Kansas is higher than that of the United States for different demographic groups (with the exception of the urban population). Also, the median age for the white population is substantially higher than the median age of the nonwhite population.

## Table 6
## Populations over 65 Years

| | Kansas | U.S. |
|---|---|---|
| 1960 | 10.7% | 9.2% |
| 1970 | 11.9% | 9.9% |
| 1978 | 12.6% | 11.0% |

Source: Bureau of Census

## Table 4
## Population Growth Rates (in Percentage)

| Period | U.S. | **Kansas** | Nebraska | Oklahoma | Missouri |
|---|---|---|---|---|---|
| 1950-60 | 18.51 | **14.41** | 6.5 | 4.3 | 9.2 |
| 1960-70 | 13.21 | **3.21** | 5.2 | 9.9 | 8.3 |
| 1970-80 | 11.90 | **5.10** | 5.7 | 18.2 | 5.1 |

Source: Bureau of Census

### LABOR FORCE

If the state population remains older than the national population and if outmigration of younger people continues, then the resulting "older" Kansas labor force may be at a competitive disadvantage in the technological era of the 1980s and 1990s. The future responsiveness and adaptivity of the Kansas work force to technological change could be affected adversely by this aging process. The age-shift phenomenon is causing similar concern on a national level, but the higher Kansas median age could intensify the problem in the state. Unless offset by a responsive education and training system, this factor could negate the attractive attributes of the Kansas labor force now perceived by employers.

During the 1960-70 period, the labor force participation rates for Kansas increased faster than for the nation, and available evidence suggests that this trend has continued, particularly for females during 1970-80. However, it would appear that Kansas rates are still lower, both for males and females. These trends will be confirmed when the 1980 Census information is released; in the meantime, available data are summarized in Table 8.

One interpretation of the lower rates for Kansas would be that fewer employment opportunities exist in the state for its work force population, relative to the national average. Similarly, the faster growth for females in the past decade suggests that job openings for them improved relative to national opportunities.

### EMPLOYMENT AND UNEMPLOYMENT

As noted earlier, farm employment in Kansas has declined significantly during the last two decades. The employment growth rate in other sectors has been enough to offset that decline, but much of this has occurred in the services and trade sectors, where

## Table 7
## Median Age of Total Population—1970 U.S. and Kansas

| | Total | White | Black | Spanish* |
|---|---|---|---|---|
| United States | 28.1 | 28.9 | 22.4 | 20.7 |
| Urban | 28.1 | 29.0 | 22.9 | 20.9 |
| Rural Nonfarm | 27.2 | 29.0 | 20.0 | 19.0 |
| Rural Farm | 32.0 | 33.0 | 19.7 | 20.0 |
| Kansas | 28.7 | 29.1 | 22.4 | 20.0 |
| Urban | 27.3 | 27.7 | 22.1 | 20.3 |
| Rural Nonfarm | 30.7 | 30.8 | 27.0 | 18.4 |
| Rural Farm | 36.7 | 36.7 | 40.5 | 19.4 |

*U.S./State Data = Persons of Spanish Heritage

Source: U.S. Department of Commerce Bureau of the Census, *General Social and Economic Characteristics*

## Table 8
## Labor Force Participation Rates

| | U.S. | | | Kansas | | |
|---|---|---|---|---|---|---|
| | Total | Male | Female | Total | Male | Female |
| 1960 | 59.4 | 83.3 | 37.7 | 57.1* | 78.7* | 32.4 |
| 1970 | 60.4 | 79.7 | 43.3 | 58.2 | 77.5 | 40.3 |
| 1980 | 63.8 | 78.0 | 51.7 | N.A. | N.A. | N.A. |

*Kansas labor force data for 1960 are based on 14 years and older; other data are based on 16 years and older.

Source: U.S. Bureau of the Census and Employment and Training, Report of President, 1979.

## Table 10
## Unemployment Rates for Different Groups (1979)

| State | Adult male (20 yrs and over) | Adult Women (20 yrs and over) | Teenagers 16-19 yrs and over) | Blacks | Whites |
|---|---|---|---|---|---|
| Iowa | 2.9 | 3.7 | 16.1 | N.A. | 4.0 |
| **Kansas** | **2.7** | **3.7** | **7.6** | **7.0** | **3.2** |
| Missouri | 3.2 | 4.2 | 14.6 | 13.4 | 3.5 |
| Nebraska | 2.0 | 2.8 | 9.1 | N.A. | 3.0 |
| Oklahoma | 2.2 | 4.2 | 8.2 | | |
| Colorado | 2.9 | 5.0 | 13.8 | | |
| U.S. | 4.1 | 5.7 | 16.1 | | |

Source: *Handbook of Labor Statistics*, Dec. 1980 Bureau of Labor Statistics

## Table 9
## Rate of Growth of Employment (Percentage)

| | U.S. | Kansas |
|---|---|---|
| 1970-80 | 23.7 | 32.05 |
| 1975-80 | 14.73 | 14.92 |

Source: *Employment and Earning Report*, Jan. 1981, Kansas Department of Economic Development

the capacity for continued growth is decreasing. Indeed, the growth of these sectors depends on growth in the more basic sectors like manufacturing and farming, which they complement. However, the prospects for rapid development of the manufacturing sector are not favorable under current conditions, as reflected in the employment growth data shown in Table 9.

Kansas actually did better than the national average for the first half of the 1970-80 decade, but just held its own for the 1975-80 period. Although the recession of 1975 had greater impact on national employment than on state employment which is relatively insensitive to the business cycle, it can be said that Kansas employment growth has probably been less than average in the recent period.

The Kansas unemployment rates for all groups are lower than the corresponding rates for the U.S. and for neighboring states (Table 10). And yet, however intrinsically pleasing this might be from a social welfare perspective, care must be exercised in the application of these statistics to an analysis of the Kansas economy.

A low unemployment rate is frequently, and not always accurately, used as a sign of economic health and well-being. Often one uses the presence of such figures to indicate good employment opportunities resulting from strong economic growth. This observation is particularly perilous to make about the Kansas economy, in that the low unemployment rate would appear to result preponderantly from hidden unemployment, out-migration, and involuntary lower labor force participation, following limited employment opportunities. Section II takes a closer look at these problems.

## II. Labor Market Problems and Issues for Kansas

As documented in Section I, significant changes in the underlying economic structure and demographics have occurred in Kansas, and they have had a profound impact on the Kansas labor market. In particular, these changes have given rise to the troubling paradox of concurrent labor shortages and surpluses, and an understanding of this phenomenon is necessary to underpin sound policy formulation in relation to employment and human resource development in the state.

The present and potential labor market problem in Kansas has many dimensions, including job creation and its geographic distribution, the nature of jobs being created relative to the education and skill of labor supply, the impact of the underlying changes on the demographic groups comprising the work force (particularly women and youth), and the characteristics of the Kansas work force in the future. Seven specific problems will be discussed in turn, although it needs to be recognized that all are closely related.

### 1. INADEQUATE EMPLOYMENT GROWTH

The discussion of the structure of the economy indicated that sectors like service, trade, and government have played an important role with respect to the provision of jobs for Kansans in recent decades. These, however, are the kind of industries that do not have much growth potential in themselves, in that an expansion of these activities depends on parallel growth in agriculture, mining, or manufacturing—the basic industries. Hence, given their size in the Kansas economy relative to the proportion that these sectors comprise of the national economy, some increase in employment in the trade and service sectors is likely, but it cannot be expected to be signifcant.

Because technological improvement has reduced the importance of farms as the main provider of jobs in the state and as mineral resource development has recognized limits in Kansas, only manufacturing is left to provide the basis for balanced growth and job creation. The manufacturing sector of Kansas, however, has been well below the national average as a provider of jobs and income, even though its **relative** position is improving. Furthermore, the state does not enjoy a natural comparative advantage in attracting manufacturing investment. Thus, it is evident that the adequacy of future employment growth will depend largely on the state's ability to expand its manufacturing sector.

### 2. UNBALANCED GEOGRAPHIC DISTRIBUTION OF JOB CREATION

There has been a growing concentration of economic activity in the state's south central-northeast corridor (the industrial crescent), associated with increasing population density and growth. This area is where the employment growth in the state has been concentrated. This development, in conjunction with migration trends and disparate labor force participation rates among state regions, clearly suggests substantial differences in the availability of job opportunities between counties and regions of the state.

This disequilibrium raises a fundamental question of policy concerning an optimum strategy for state economic development: Should the state foster a broad-based development thrust (i.e., equal effort in all counties), or give particular emphasis and support to the lagging counties, or go with the existing momentum and foster further development in the concentrated growth areas?

To the degree that human resource policy objectives are economic in nature, their linkage to economic development strategy is important. The optimum configuration and location of human resource programs in the state will depend on the policy alternative chosen in answer to the above question.

### 3. LACK OF EMPLOYMENT OPPORTUNITIES FOR WOMEN

Female labor force participation rates for Kansas have been consistently lower than the national average. The Kansas rates have also been lower than those of surrounding contiguous states (which have tended to exceed the national average). Again, more recent data (1980 census) are expected to show that these interstate differentials have narrowed. Still, given that Kansas women have a higher education level (12.3 median years of schooling in 1970 compared with national 12.1 years, Oklahoma 10.5, Missouri 11.8, and Nebraska and Iowa 12.3), these differentials can be interpreted as reflecting some lack of employment opportunities for women in the state as well as being an important factor underlying outmigration, in general, and rural-to-urban migration, in particular.

This migration aspect is reflected in the distribution of female labor force participation rates throughout the state. Rates have been noticeably lower in counties in the northwestern region of the state and, to some extent, in the southeast counties; they are consistently higher (normal by national standards) in the south central to northeast industrial/urban corridor. In essence, the problem of inadequate jobs for women is concentrated in the rural sector.

Some would argue that this problem is not confirmed by the relatively low unemployment rates in Kansas. However, as noted previously, the unemployment measure does not take into account hidden or disguised unemployment due to discouragement and the paucity of opportunities, both of which are more likely for females and in rural counties. The Franke study of the latent work force in Kansas (*Kansas Business Review*, May, 1980) shows that there can be a considerable labor reserve in a typical Kansas county, that this reserve is largely composed of females, and that these laborers would enter the labor force in relatively significant numbers were jobs to become available.

From the state's perspective, increasing urbanization, to the extent it occurs, will be more conducive to job opportunities for women. However, this improvement could be offset by relatively flat growth in the service, trade, and government sectors in the 1980s, where the proportion of female employment is relatively high.

### 4. LACK OF EMPLOYMENT OPPORTUNITIES FOR YOUTH

Previous census data indicate that the 20-30 age group experiences the highest net outmigration from Kansas, in particular, the higher educated and trained persons in this group. For the period 1960-70, the state lost through net outmigration about 40 out of every 100 college graduates produced in the state. This loss of Kansas college youth would be somewhat lower, though still significant, if this estimate were adjusted for foreign student graduates, for the high nonresident enrollment of private colleges, and for the twin-state nature of Kansas City.

Whether this rate of "brain drain" of the state's most valuable resource has declined recently will not be known until the 1980 Census is released. Although the actual numbers will be less, due to smaller net outmigration for 1970-80 than for 1960-70, the implications for the state of this longterm trend are immense in many ways, particularly in a qualitative sense (work force, business management, state and civic leadership).

The other very important component of the youth-jobs problem is the lack of opportunities in the rural regions of the state. There are many factors involved here, including two identified in this analysis, namely the overall job-creation situation and the geographic distribution of job opportunities. Another factor is the lack of job opportunities for women, which tend to make the job market more competitive for youth.

### 5. SHORTAGE OF SKILLED LABOR

General and specific skill shortages are pervasive throughout the state and, in particular, in the major urban centers of the south central to northeast corridor. This well-known fact was confirmed recently by a Kansas Department of Economic Development statewide study of business problems. Responding businessmen identified skill shortages as their most important concern. As well, it has been an important consideration underlying expansion of Kansas firms outside the state and is reflected in the low male unemployment rates in urban centers. Finally, skill shortages have been identified repeatedly as a primary reason retarding out-of-state investment in Kansas.

Skill shortages occur when there is a mismatch between the nature of supply and demand. The composition of supply is determined by the education and training system and its responsiveness to the present and expected underlying structure of demand. At the higher levels of education, both national and state demand patterns are relevant in determining characteristics of supply, while at lower levels (community college, technical school, adult training programs, etc.), the composition of state demand should be the determining factor. It is a fundamental question as to whether the education and training system in Kansas, in general, and the nonuniversity sector of that system, in particular, are complementary and responding adequately to the state occupation demand pattern. If not, skill shortages will exist and continue.

The paradox is that surpluses exist with shortages, at least until relieved through outmigration. In this regard, the second element to the mismatch lies in the nature of demand. The industrial sectors which now employ the predominant portion of the labor force, like service, trade, and government, do not create a broad-based demand for highly skilled labor. Furthermore, there is the real question as to whether the type of manufacturing the state has attracted in recent years is as skill and education intensive as the composition of the work force.

**The future responsiveness and adaptivity of the Kansas work force to technological change could be affected adversely by this aging process.**

These factors tend to act as disincentives to the creation of a broad-based skill pool through the training system. Consequently, not only are the types of skills in the state's existing labor pool unlikely to be attractive to the developing high technology industries, but also there may be built-in to the present scenario a growing inability to respond to new opportunities.

Finally, it should be noted that in some regions of the state shortages of labor of a less skill-specific nature tend to recur. Sometimes these shortages are periodic in nature, when, for example, there are time lags in the response of the work force elsewhere to a surge of economic activity in a specific region (southwest Kansas). Sometimes that response is not forthcoming (or is very slow) at a time when a region, which previously suffered stagnation and relative decline (southeast Kansas), now experiences growth. This phenomenon is likely to be a recurring problem, and the issue for policymakers is whether special mechanisms should be devised to respond to these developments. Such systems would have to involve much closer coordination between human resource and economic development programs than presently exists.

### 6. DECLINING PRODUCTIVE CAPACITY OF THE KANSAS WORK FORCE

The basic forces exist for a decline in the relative productive capacity of the Kansas work force, including the absence of a broad-based skilled pool *vis-a-vis* the needs of growth industries, the "brain drain," the less education-intensive nature of Kansas industry, and, most of all, the aging work force. The potential erosion of productivity due to an aging work force will be a serious problem with many dimensions in the next two decades, and the Kansas situation will be exacerbated to the extent that the state's population and labor force will be older than the national average.

The issue here is the focus of the state education and training system in terms of the skills being stressed and the population being served (e.g., youth vs adults). In the past, intrinsic qualities of the Kansas work force have been an important attribute in attracting new investment to the state, but these qualities could be compromised severely in the future due to the aging factor. The question confronting state planners is whether the state should undertake or encourage remedial programmatic action (e.g., adult refresher courses for vocationally trained adults).

### 7. PROBLEMS OF TARGET GROUPS

There is no evidence at the moment to indicate that the labor market problems of special target groups (e.g., minorities, handicapped, veterans, etc.) are significantly different (more or less severe) in Kansas from those of the same groups on a national basis. Further study will be necessary to confirm this provisional conclsuion. These groups, of course, have suffered serious disadvantage in the labor market nationally and, likewise, in Kansas; as a result, they are the primary target of CETA and other special purpose legislation.

It does not appear that these groups are overly concentrated in certain regions, so as to require special attention on that basis, other than for minorities who tend to be concentrated in the major urban centers. However, these target groups will be affected disproportionately by the budget cutbacks of the Reagan administration, and future policy should not presume that these groups are being served adequately by the remaining programs.

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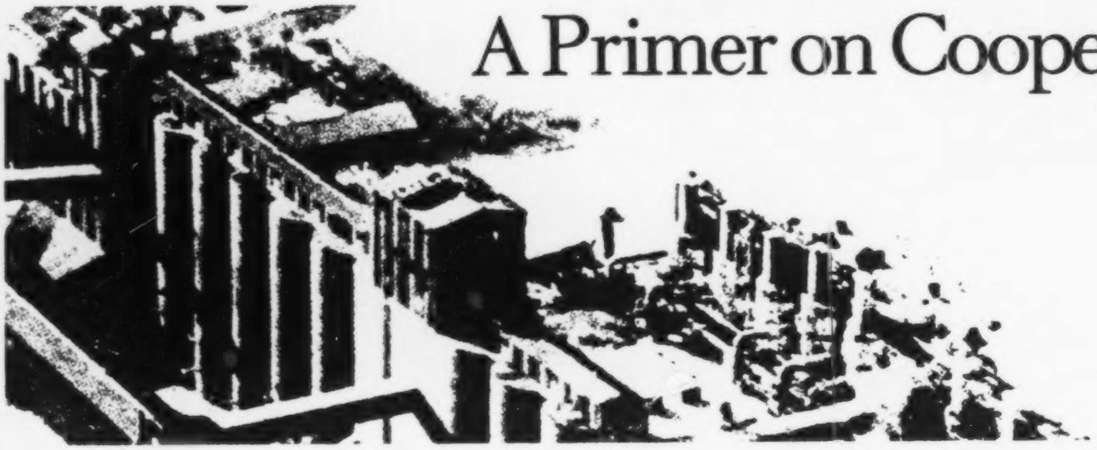

# A Primer on Cooperatives

**Richard Sexton**

**Mr. Sexton is a Research Associate at the Institute for Economic and Business Research.**

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Cooperatives are an important but often misunderstood form of economic organization. Traditionally, they have been considered as benign purveyors of good to their membership and the economy. Yet, recently they have been subjected to criticism in certain areas. This study will review this criticism and some fundamentals of cooperative operation, highlighting differences between this form of organization and ordinary businesses. It also will investigate the desirability of cooperation from the producer's perspective.

More specifically, Section I provides a brief introduction to coops. Section II reviews some basic theory concerning cooperative operation and contrasts a coop's behavior with that of ordinary corporations. This section is somewhat technical, and readers may choose to go directly to Section III with little loss of continuity. In Section III, some institutional aspects of cooperatives which have caused concern among some critics are discussed. Section IV analyzes the desirability of cooperative formation under various circumstances, and Section V briefly summarizes.

## I. Background

There are many types of cooperatives. Consumer food and housing coops are common in urban areas, and corporative cooperation for a specific purpose such as input procurement is not uncommon. No doubt, the most important types of cooperatives, however, are agricultural coops, and, for this reason, much of the research on cooperatives has been focused on these types. Most recent statistics indicate that there are 7,535 agricultural coops in the U.S., encompassing 6,906,379 members. These cooperatives handled a gross business volume of 55.9 billion dollars in 1976.

Agricultural coops are important in Kansas as well. In 1976, 261 coops were headquartered in Kansas with over 200 thousand members. The total sales value from these coops was about 2.5 billion dollars, the sixth largest cooperative sales volume in the nation.

Cooperatives are structured through either a centralized or federated format. Under a centralized structure, individual producers comprise the cooperative membership; under a federation, local cooperative associations comprise the membership. Additionally, coops are classified according to the function they perform. A marketing coop purchases and sells the output of its members, whereas a purchasing coop supplies its members with one or more productive inputs. Among the agricultural coops in Kansas, 202 engage primarily in grain marketing and 54 perform purchasing functions.

## II. Comparing Coops with Corporations.

Coops are largely owned by their patrons, and the cooperative goal is, consequently, to maximize the welfare of these people. Articulation of this goal has given rise to several different optimizing solutions for the coop, as will be illustrated later.

Corporations are owned by shareholders, and, generally, there is little relationship between the corporation's ownership and its patrons. The corporate goal is considered to be maximization of shareholders' profit.

To illustrate how these differences in operating fundamentals can affect market outcome, one can examine the equilibrium configuration for a farm input market under three alternative structures for market supply: (1) market supply is controlled by a profit-seeking monopoly corporation, (2) the market is supplied by several perfectly competitive firms, and (3) the market is supplied by a cooperative. The results are illustrated below in Figure 1.

DD represents the producers' demand for the input Q. MR is the marginal (incremental) revenue obtained from selling an additional unit of Q. AC is the average or per unit cost of production curve, and MC represents the marginal cost curve which identifies the incremental cost of producing an additional unit.

Given these relationships, the standard result is that a firm maximizes its profits by producing at the output level for which MR = MC, i.e., the cost of producing the last unit just equals the revenue obtained from selling it.[1] Thus, in the case of a monopolist (who faces the marginal revenue schedule depicted by MM), output would be Q, and the price charged would be $P_m$ which is the highest price it could charge based upon farmers' willingness to pay as represented by their demand curve.

Another standard result of the theory of the firm is that the supply curve for a perfectly competitive firm, i.e., a firm which has no influence on market price, is a relevant portion of the firm's MC curve. Market supply is simply the horizontal summation of the firm's supplies. Market price and output are determined by the intersection of supply and demand. By assuming that these firms' MCs sum to what would be the MC of a market monopolist,[2] one arrives at P*, Q* as the equilibrium price output under a competitive market setting.

The market result under cooperative supply is less clear, and three possibilities have been suggested. Enke (1947) proposed that the competitive P*, Q* solution would represent the cooperative solution as well. This position was supported and further articulated by Hardie (1968) who argued that because P*, Q* maximized aggregate net surplus,[3] equilibrium would maximize overall returns to cooperative members as both patrons and owners. Clark (1951) expressed a contrary viewpoint. His position was that a coop would best serve its members by operating at the least cost possible even if it required restricting membership to do so, suggesting, therefore, operation at the minimum point of AC at output level Qc. The coop could charge Pc and refund the price/cost differential (AB in Figure 1) to the members. Gislason (1952) criticized Clark's results by arguing that, in practice, coops generally do not restrict membership;[4] rather, he suggested that a coop would attempt to satisfy whatever patronage its members bring and employ open membership. This policy would move the coop to the PG, QG solution in Figure 1.

In a classic article, Helmberger (1964) analyzed the economics of marketing coops. He emphasized the importance of short-run versus long-run distinctions and the question of whether the coop employs an open or restricted membership policy. Translating Helmberger's work on marketing coops to the purchasing case illustrated in Figure 1 results in solutions at Qc for a restricted membership coop and QG for one which employed an open membership policy.

The nature of these equilibrium solutions has very important implications for economic welfare. The monopoly output QM is inefficient due to its restrictiveness. The value of production at QM, as represented by farmers' willingness to pay for it, exceed the incremental cost of production. This relationship means output should be expanded; specifically, it should be expanded to Q*, the competitive output level. Inspection of Figure 1 indicates that, at Q*, the value of a unit of output is just equal to its cost of production. This reasoning demonstrates that the Enke-Hardie solution is the only proposed cooperative equilibrium which is economically efficient. Clark's Qc solution is too restrictive, and the QG solution results in expansion of output beyond the efficient level.

## III. Institutional Considerations

Reconciling the theoretical prescriptions for cooperative operation with actuality has been difficult. Some elements which have been observable are the following:

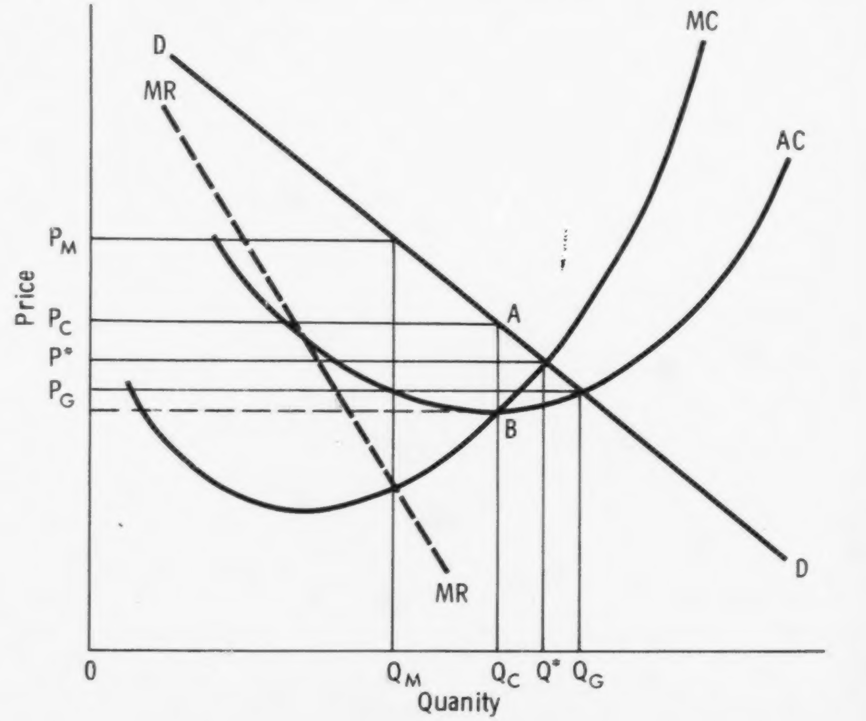
1. Membership restriction by coops does occur but is uncommon.
2. Coops tend to accumulate a net operating surplus in much the same manner as do corporations.
3. When operating in a market with noncoops, cooperatives tend to charge the prevailing market price.

These last two observations illuminate two major areas in which coops have been subjected to criticism: taxation and market power. The tax problem is twofold: (1) Corporations feel that coops receive favored tax treatment which unfairly benefits them, and (2) cooperative patrons may have good reason to feel disadvantaged by the way the coop exercises its prerogatives with respect to taxation.

The reason for these concerns is that coops are largely able to avoid taxation by allocating net revenue back to their members on the basis of patronage.[5] This allocation may, but need not be, in the form of cash. Very often it takes the form of certificates of allocation which are redeemable only at the discretion of the coop. The coop is exempt for taxation on allocations to members, provided it pays at least 20 percent of the allocation in the form of cash and also provided the members agree to include the entire allocation (both cash and noncash portions) in their taxable income. Simply cashing the portion of the allocation received in check form constitutes such agreement by a member. Distribution of cooperative net revenue for 1976 is indicated in Table 1. The Table shows that less than 40 percent of aggregate cooperative net revenue was received by members in cash.

The result of this arrangement is that a coop can plow back up to 80 per-

Figure 1. MARKET EQUILIBRIUM UNDER DIFFERENT STRUCTURAL SETTINGS



## Table 1
## Distribution of Net Operating Revenue 1976

| | | | % Distribution as Allocated | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Allocations | | | | | |
| Function | Number | Net Saving $1,000s | Cash | Qualified | Non-qualified | Unallocated | Div. & Int. | Income Taxes |
| Farm Supply | 2,164 | 523,597 | 36.3 | 50.1 | 0.7 | 6.3 | 1.5 | 5.1 |
| Marketing | 1,674 | 468,765 | 64.4 | 27.4 | 1.2 | 1.8 | 2.5 | 2.7 |
| Marketing/Supply | 1,957 | 851,599 | 28.7 | 50.3 | - | 10.5 | 2.5 | 8.0 |
| Total | 5,795 | 1,843,961 | 39.9 | 44.4 | 0.5 | 7.1 | 2.2 | 5.9 |

Source: Economics, Statistics, and Cooperative Service, USDA

## Table 2
## Equity Redemption Programs Used by Cooperatives (by Membership and Function)

| Type of cooperative | Systematic only | Special only | Both systematic and special | All program | No program | All cooperatives |
|---|---|---|---|---|---|---|
| | | | Percent | | | |
| Federated: | | | | | | |
| Marketing | 39 | 8 | 14 | 61 | 39 | 100 |
| Farm Supply | 36 | 20 | 12 | 68 | 32 | 100 |
| Related Service | 50 | 6 | 13 | 69 | 31 | 100 |
| Total Federated | 40 | 12 | 13 | 65 | 35 | 100 |
| Centralized: | | | | | | |
| Marketing | 17 | 30 | 17 | 64 | 36 | 100 |
| Farm Supply | 3 | 54 | 28 | 85 | 15 | 100 |
| Related Service | 6 | 22 | 11 | 39 | 61 | 100 |
| Total Centralized | 12 | 39 | 20 | 71 | 29 | 100 |

Source: Farmer Cooperative Service, USDA

cent of its net revenue without incurring any tax liability. This exemption distresses corporations who share markets with coops because corporations must pay about half of their income in taxes whether it is distributed to shareholders or not.[6]

In principle, revenue retention consititutes investment by member patrons in the coop. If such investment serves to increase plant efficiency and lower the coop's cost of service, members will benefit from revenue retention. However, if it is used to diversify the coop into unrelated fields or to expand over a larger geographical area, the investment is of rather dubious value from the present members' viewpoint. The reasons are—because stock is not actively traded—there are no means by which a member can profit from increased value of the coop and, secondly, coops often do not have any program for redeeming accumulated equities. Evidence regarding cooperative equity redemption practices is contained in Table 2 and indicates that 35 percent of federated coops and 29 percent of centralized coops have no such program at all. Additionally, a substantial number just have "special programs" which redeem equities only at the time of retirement or death. When coops do have a plan for revolving out accumulated equities, the period from issuance to redemption is often quite long. The most common systematic plan has an average period of 10.5 years.[7]

The bottom line is that, in many cases, cooperative members pay tax on income they do not receive at all or receive only at a much later date. A practical implication of this is the difficulty for members to evaluate the true price they pay to or receive from a coop. A member faces a nominal price at the time of transaction and may or may not receive a refund at some later date(s).

Growth of farmer cooperatives in certain markets has caused some concern over the exercise of market power by coops.[8] This concern is centered on provisions of the Capper-Volstad act passed during the 1920s which gave farm coops certain exemptions from antitrust laws. Specifically, the act allowed farmers to combine horizontally into cooperatives. In principle, it follows that, if a cooperative could organize enough producers and control production, it could then exercise market power to the detriment of other firms and consumers in the market.

## Table 3
## % of Equity Capital in Certificates of Equity

| | Common Stock | Preferred Stock | Qualified | Non-Qualified | Unallocated Reserves |
|---|---|---|---|---|---|
| Farm Supply | 21.3 | 31.7 | 28.2 | .8 | 17.7 |
| Marketing | 10.0 | 13.2 | 67.9 | 2.4 | 5.9 |
| Marketing/Supply | 17.4 | 12.6 | 49.5 | .4 | 19.7 |
| Total | 16.3 | 18.1 | 49.0 | 1.1 | 15.1 |

Source: Economics, Statistics, and Cooperative Service, USDA

Concern has also been expressed about continued cooperative integration into the food-delivery process or input-procurement chain.

The trend of research into cooperative market power suggests that these fears may be overstated. Galbraith (1964) pointed out the practical difficulties involved in cooperative exercise of market power. Torgerson (1977) noted that cooperative growth rates have not been excessive and that the largest coops in most markets are still relatively small compared to their corporate counterparts. In addition, several court decisions have set limits to cooperative immunity from antitrust under Capper-Volstad.[9] Knudson (1974) has suggested that a coop which imposes output restrictions to enhance producer returns may be subjected to antitrust proceedings.

Prevailing opinion appears to be that circumstances under which cooperatives can exercise market power to the detriment of society are rare. It may be more apt to suggest that the principal reason producers organize cooperatively is not to exercise market power but to be protected from having market power exercised upon them. This matter is discussed further in the next section.

## IV. When Might Cooperation Be Desirable?

Having outlined some of the principal facets of cooperative operation in the previous pages, this section now focuses on the very pragmatic question of under what market circumstances might cooperation be desirable from an individual producer's perspective. The fundamental criterion necessary to make cooperation potentially desirable is the existence of some type of imperfection in the existing market. In a perfectly competitive market setting (i.e., a setting in which there are many agents, none of whom has any influence on market price), firms are driven to be efficient. That is, they will be driven to offer producers the lowest price possible in the case of an input market and offer them the highest possible price in the case of an output market. In this situation, there seems little chance that producers could obtain a better deal through cooperating.

Market "imperfections" may refer to many conditions, and some possibilities are listed below:

1. The market may fail to exist at all.
2. It may be dominated by a few firms.
3. There may be uncertainty in supply or demand.

A market will fail to exist when supply and demand do not meet at positive output levels; in other words, when it is not possible for agents on at least one side of the market to earn a profit. It is possible to show that, in many cases, though supplying a product necessarily entails a loss, the net benefits to purchasers from having the product supplied will exceed the production loss. In such a case, the purchasers can benefit from supplying the product themselves through cooperation.[10]

When a market is dominated by one firm (monopoly/monopsony) or a few firms (oligopoly/oligopsony), these firm(s) can exercise power over the market, and price will almost always exceed the minimum level of average cost. In these instances, the likelihood exists that purchasers can combine and cooperatively produce the product at a savings relative to the current market prices.

Volatility in supply and demand can introduce large shifts in price and output availability in any particular market. By cooperating, farmers or other agents can often ensure themselves a more stable market environment. An example was the fertilizer markets in the early and mid-1970s. Increased world demand for fertilizers raised prices dramatically and reduced domestic availability. Coops were, however, apparently able to continue to supply their members at relatively favorable prices in spite of the market's instability.[11]

Of course, it is likely that one or more of these imperfections will be present in most markets. Their presence does not mean, however, that either forming a cooperative or joining an existing one is necessarily desirable. There are usually initial membership fees or stock purchases which serve to offset any price advantages a coop may offer. Also, potential cooperators must recognize that the coop will tend to accumulate earnings for investment similar to ordinary firms, hence, as discussed above, allocated patronage refunds may never actually be received. The importance of surplus retention as a source of equity capital for coops is illustrated in Table 3. Nearly 50 percent of all equity capital for coops takes the form of allocated certificates of equity, i.e., retained patronage refunds.

Tax considerations are also important because allocated refunds are taxable income to recipients, and it follows that a potential member's tax bracket and the severity of the state's income tax are worthwhile considerations. The coop's membership policy is another important question. Coops which openly accept new members run the risk that their increased output will generate inefficiencies which will, in turn, decrease returns to existing members.

A final issue which deserves consideration is management of the coop. If individuals group together and cooperate in an enterprise distant from their areas of expertise, they will have to put control in the hands of an outside managerial staff. Although not a problem unique to coops, in ordinary corporations several incentives are generally present which serve to drive management to pursue stockholders' interests. Most commonly cited are options to purchase company stock, discipline by the board of directors, and the threat of outside takeover. Additionally, efficient-market theorists such as Fama (1980) argue that gyrations in the value of a company's stock serve as a barometer of managerial performance. Thus, deviations from pursuit of profit will become reflected in the value of the firm's stocks and, consequently, managements' value. Brief inspection will indicate that the above incentives are not as apt to be present in coops because cooperative stock is not generally marketed or transferrable and because outside takeovers cannot occur. These factors have caused some to express concern over whether a cooperative will always be run in its members' best interests.[12]

**Prevailing opinion appears to be that circumstances under which cooperatives can exercise market power to the detriment of society are rare.**

## V. Summary

This paper has been primarily expositional in nature, designed to review some of the economic issues relating to cooperatives and to provide information on facets of cooperative operation. The analysis indicated that many market settings might yield net benefits from cooperation; however, it was suggested also that several intervening factors require consideration in judging the desirability of cooperation for any individual or group of individuals.

## Footnotes

1. At output levels greater than the profit maximum level, some units of output are being offered at a market price less than their cost; therefore, profit would increase if they were not produced. If total output is less than the profit maximizing level, buyers of the output are willing to pay a price to the firm that exceeds the additional cost to the firm of producing that additional output. Clearly, it is in the firm's interest to increase output up to the point where MR = MC.

2. This assumption is quite useful and is often made in economics. Its meaning can perhaps best be illustrated by an example. Suppose there are several dairy processing plants supplying a market area, each with an upward sloping marginal cost (MC) curve. If the market price was $1.80/gal., each firm would expand production until MC = $1.80. Adding up the quantities produced at this price would obtain one point on the market supply curve. Call this total output Q*. Now suppose these dairies were all merged into one large monopoly firm. The assumption being made is essentially that, at the output level Q*, the MC for the monopolist of producing another gallon of milk would be $1.80.

3. Net surplus is the sum of producer and consumer surplus. Essentially, it is the area below the demand curve and above the MC curve in Figure 1.

4. See Youde and Helmberger (1966) and Youde (1977) for evidence on the extent to which coops employ open or restricted membership.

5. Like most tax matters, cooperative taxation is a complicated situation which is beyond the scope of this paper to discuss in detail. A good reference is Morrison Neely, *Legal Phases of Farmer Cooperatives*, "Information 100," Farmer Cooperative Service, USDA.

6. The other side of the coin deserves mention in this regard, however. Since coops generally pay little in taxes, they are less able to take advantage of investment credits and special depreciation allowances which often serve as means of limiting corporate tax liability.

7. Based upon present value considerations, it must be recognized that income received in the future is worth less than an equivalent amount received in the present. To illustrate, at a 10 percent discount rate the present value of $100 received 10.5 years in the future is $36.75. At a 15 percent rate of discount, it is worth only $23.05.

8. The flavor of this sort of criticism can be obtained from "Billion Dollar Farm Coops Nobody knows," *Bus. Week*, Feb 7, 1977, pp. 53-64.

9. In particular *Maryland and Virginia Milk Producers Assn. v. United States* (1960) essentially stripped coops of any special standing with respect to antitrust laws, and *North Texas Producers' Assn. v. Metzger Dairies* (1965) made coops subject to the same responsibilities as ordinary firms under Sec. II of the Sherman Act.

10. Specifically, the condition for a purchasing coop would be that the consumer surplus generated exceed the loss incurred by the coop.

11. Vogelsang (1979) documents some evidence on the behavior of cooperative fertilizer suppliers during this period.

12. The most compelling factor conducive to good cooperative management is that members often can "vote with their patronage." Members may be contractually bound to patronize the coop for a fixed period but free to leave subsequently. In some markets, the coop may be the only source of demand or supply, in which case this factor ceases to be important.

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# Economic Conditions
## The National Review

### The Current Condition

At the conclusion of 1981, the economy continued to remain in the grips of a moderately severe recession. Many feel that the current decline has been primarily caused by the record high interest rates experienced in the second half of 1981, which, in turn, were fueled by a combination of restrictive monetary policy and pressure on credit markets due to the Treasury's debt-financing activities.

Not surprisingly, those hardest hit by the current slump were the sectors which historically exhibit the most interest-rate sensitivity. Some examples are:

**Housing:** single family home sales in September were at the lowest monthly level on record. Sales recovered slightly in October and were up 11.3 percent in November but were still 28 percent below year-earlier levels. Meantime, building permits were down 14 percent in October, suggesting a continuation of the concurrent slump in construction.

**Autos:** sales are at their lowest level in 23 years. October and November sales were down 30 percent and 25 percent, respectively, from already depressed year-ago levels. December production plans were set 21 percent lower than year-ago levels, reflecting the auto industry's expectation of continuing sales declines.

**Machine tools:** orders are down 45 percent from last year and are at the lowest levels in five and a half years.

The overall outlook is not much brighter. Gross National Product increased an anemic 1.6 percent in the third quarter, following a 1.6 percent decline in the second quarter. Much of the third quarter increase was attributed to inventory accumulation. The Commerce Department projected a fourth quarter decline in GNP of 5.4 percent. These declines are being foreshadowed by the plummeting level of industrial production. Specifically, industrial output was down 2.1 percent in November, following declines of 1.4 percent in October and 1.2 percent in September.

The unemployment rate reached 8.4 percent in October, reflecting a seasonally adjusted level of nine million unemployed. Unemployment levels are expected to surpass 9.0 percent before the current contraction bottoms out sometime early next spring.

Total retail sales contracted at a real (inflation adjusted) rate of 0.4 percent in September. October sales declined 5.9 billion or 1.5 percent from their September levels. November sales were up a modest 0.8 percent from their depressed October levels.

A bright spot on the economic horizon has been the recent moderation in inflationary pressures. Consumer prices rose 0.5 percent in November following a 0.4 percent increase in October and a 1.2 percent jump in September. Producer prices increased 0.6 percent in October and 0.5 percent in November. These modest increases foreshadow a continued moderation of prices at the consumer level in the coming months.

The percentage increase in the consumer price index in 1981 through the first 10 months is just over 8.0 percent compared with an increase of over 13 percent in 1980. The recent moderation in prices was due mainly to declines in costs for food, housing, and fuel.

Slumping demand caused a fractional decline in housing prices in October with November recording a relatively modest 0.4 percent increase. Moderating mortgage rates may spur further declines in succeeding months. Fuel prices were off 0.6 percent in October due to weak demand, but jumped 1.5 percent in November. Record harvests for major farm commodities led to a moderate 0.2 percent in the food component of the consumer price index for October and November. Declines in the succeeding months may be expected here as well.

The Reagan administration has recognized that the recession will be worse than their initial expectations. The combination of the recently enacted tax-cut package and the contracting economy is expected to produce record high deficits over the next three years. Some forms of tax increase and further spending cuts will likely be enacted to slow the flow of red ink. Such actions, however, could further deepen the recession and, therefore, may be put off until after the recovery is underway.

### Outlook

The recession is expected to continue at least through the first quarter of 1982. Current projections are for declines of from 1.0 to 2.0 percent in the output level in the first quarter. The Commerce Department's index of leading economic indicators declined 0.3 percent in November and 1.6 percent in October, foreshadowing further downturns. It was the fourth consecutive monthly decline for the Index. (See the inside back cover of this *Review* for more details on the index.)

A turnaround is expected to begin in the second quarter as declining interest rates begin to stimulate a release of pent-up demand in the housing and durables markets. This, along with initiation of phase 2 of the tax cut in July, should stimulate markets in general, and the third quarter could well be marked by fairly strong real output growth in the range of 4.0 to 5.0 percent.

The recent trend towards price-level moderation is expected to continue into 1982. Projections for the overall inflation rate range from about 6.5 to 9.0 percent. Interest rates are expected to decline through the first quarter of 1982 with the prime rate falling to a low of 12 to 13 percent. Interest rates will likely begin to pick up again in the second quarter if the economy expands as predicted.

There are, however, several possible pitfalls which could impede recovery that deserve mention.

The first concerns the future course of interest rates. Key sectors of the economy, e.g., housing, consumer durables, and capital, which generally are the leaders in an economic recovery, are closely tied to the level of interest rates. If rates do not continue to moderate as expected, recovery in these sectors and, consequently, overall recovery could be jeopardized. Any one of several factors could intervene to put new pressure on interest rates: 1) a resumption of overly restrictive monetary policy by the Federal Reserve, 2) a renewed surge of inflationary fears in the credit markets, or 3) extreme demand side pressures on the credit market due to high levels of government deficit financing activity combined with a revival of private sector activity in that market.

Consumer confidence is another area of potential concern. Much of the recovery scenario hinges on the existence of a strong demand for housing, durables, and capital goods in the second quarter of 1982. If consumers and business purchasers lack confidence in the economy at this time, they may continue to postpone purchases, thereby jeopardizing recovery. In this context, it may be significant that an index of consumer confidence published by The Conference Board declined in November for the third consecutive month.

Finally, most recovery projections expect and depend upon a continued easing of inflationary pressures. If inflation is worse in 1982 than expected, it will drive up interest rates and weaken consumer confidence. It will also tend to exacerbate the balance of trade problem. Renewed pressure on inflation could result from an upheaval in a major commodity market such as oil or food. It could also happen if credit and consumption demand expand too rapidly in the first half of 1982.

In summary then—barring the unforeseen or the unusual—look for the economy to bottom out in the first quarter of 1982, but do not expect substantial growth until summer.

# The Kansas Economy

## Employment—All Industries

Although the national economy can be described as experiencing a moderately severe recession, a similar description of the Kansas economy is not yet fitting. Certainly, the level of economic activity in the state will follow the national trend downward. The question is: Has the Kansas economy begun to contract?

An answer is developing as year-end, 1981 data continues to be compiled, but, as of the October 1981 employment data, no signs of the beginning contraction are apparent. The rate of unemployment in the state increased from 3.4 percent in September to 3.5 percent in October. At the national level, the respective rates were 7.5 and 8.0 percent. Interestingly, one year ago, the unemployment rates were higher in Kansas (4.1-9/80, 4.0-10/80) and lower at the national level (7.4-9/80, 7.6-10/80). It appears, therefore, that the employment situation is better in Kansas now than a year ago whereas the reverse appears true for the nation. The national economy began to recover from the 1980 recession in July of that year (although this is currently a matter of some debate). The recovery in Kansas followed in the late fall, early winter months of 1980, as evidenced by a constant rate of unemployment (4.0-4.1) from September 1980 to January 1981, a season when unemployment in Kansas generally increases due to seasonal adjustments in farming and construction. Thus, the recovery took the form of the employment situation not getting worse during the fall-winter season when, historically, it usually does. Then, from February 1981 to September 1981, the rate of unemployment declined in Kansas; the same occurred at the national level until July. That month, the national unemployment rate bottomed out at 7.0 percent and then increased to the November mark of 8.4 percent. It is likely to go up in December. The low in Kansas unemployment probably was reached in September. This year, Kansas again faced the prospect of seasonal gains in unemployment. Various sources around the state (primarily in the Kansas City, Kansas, Topeka, and Wichita areas where 50 percent of the total state employment exists) indicate increasing unemployment for November and the same again in December. Most analysts felt this to be due primarily to the seasonal shift; what blame lies with the current national recession is questionable.

When the recession hits Kansas, it will likely hit Wichita first. Although, for October, the unemployment rate was lower in Wichita than in Kansas City and Topeka, the prospect for increasing unemployment is strongest in that city. Cessna and NCR announced layoffs in November/December. Construction, already hampered by expensive money, suffered a further drop in activity due to the cold weather. Financial instruments used by the Federal government to bolster low income housing were cut back in September/October in Wichita. Further cutbacks are expected in the months ahead. Even though Christmas sales prompt a considerable demand for retail sales help, this season retail employment picked up only slightly—again reflecting the retailers' weak Christmas season.

Much of this decline is contingent on defense monies being channeled into the Wichita economy. Although Wichita employment is slightly more diversified now than in the late sixties (with respect to aircraft employment), Wichita remains the likely starting point for slower economic activity within the state as a result of the national slowdown.

For 1981, Topeka did not experience a rate of unemployment lower than 4.6 percent. A year ago, Goodyear laid off a number of workers in response to sagging auto and truck sales. Detroit remains in dire straights, and, as a consequence, Goodyear has failed to rehire. Recently, Allis Chalmers and Josten's issued lay-offs, the latter being seasonal in nature.

The unemployment rate in Kansas City for October was 4.3. The November rate is expected to be very near that figure, if not slightly higher. Seasonal shifts in employment will produce a higher unemployment rate in December, and it is anticipated the same will occur in January. Good weather led to a fairly substantial level of construction activity through November, thus staving-off the usual cold weather lay-offs.

For the state as a whole, following the lead of the metrocenters, unemployment will increase through January, the bulk due to seasonal changes; however, recession related lay-offs will become more prominent in Kansas.

## Agriculture

1981 was a record year for U.S. grain harvests. Food grain production was up 17 percent, and feed grains were up 22 percent. Not surprisingly, these abundant harvests have had a depressing influence on prices. Large fall slaughters of cattle and hogs have contributed to broad price declines in these markets as well. Nationally, the index of prices received by farmers declined 3.1 percent in December preceded by a 0.2 percent drop in November. The October price-level decline was 3.7 percent. Overall farm prices in November were 7.6 percent below their year-earlier levels. Due to the tightening price-cost squeeze, net farm income for 1981 is expected to drop (19.6 billion) for the third consecutive year.

The all-farm-products price index for Kansas farmers in November stood at 246 (1967-100). The index declined 0.8 percent from October levels and 12 percent from the year-ago level. The biggest losers in recent months have been cattle and hog prices. In November, all beef cattle were at $54.20, off 2.2 percent from October levels and 9.5 percent from a year earlier. Hogs at $39.60 were off 7.7 percent from October and 11.8 percent from November 1980 levels.

It appears that grain prices for Kansas farmers have bottomed out and are starting to turn upward, reflecting the costs of storage. The November food grain index was up 1.9 percent over October and up 5.0 percent over midsummer levels. However, food grain prices in Kansas are still 6.9 percent below year-ago averages.

The feed grain picture is bleaker. Prices stabilized in November but are down 23.7 percent from July 1981 levels and 28.9 percent from November 1980 averages.

The broad weakness of agricultural prices will have a detrimental effect on Kansas farm income. This factor will be moderated, though, by record Kansas harvests for several grain crops and by some moderation in the levels of prices paid by farmers.

Kansas experienced record harvests of soybeans and sorghum. The sorghum harvest was estimated at 259 million bushels, up 65 percent from 1980's drought-stricken levels. Bean production for 1981 was up 8.0 percent from last year at 45.2 million bushels. Corn recovered nicely in 1981 as well. Production was 153.4 million bushels, up 32 percent from last year. Of course, the major disappointment was the wheat crop which was down 27 percent from last year due to poor spring weather conditions. The loss of some wheat crops in the spring helped contribute to the record harvests of other grains as farmers may have moved their production into these areas as a result.

The good news for farmers on the cost side is that the index of prices paid was unchanged in November from October levels and, for the 12 months, was up only about 5.0 percent.

Farmers can expect only moderate improvements in prices over the winter. Cattle prices should tend upward as the big fall sell-off stabilizes. Current levels of cattle on feed in the area are the lowest in seven years.

On the crop side, winter wheat seeding in Kansas generally went well. Plantings were estimated to be 14.2 million acres, the largest recorded figure since 1953. (Rain hampered work in some areas, and reseeding was necessary in places.) Large supplies in storage should continue to exercise a depressing effect on price levels for the 1981 crop. Price improvements will be dependent upon the level of international demand, particularly the level of Soviet activity in the international grain markets. Imposition of trade sanctions on the USSR due to the Polish crisis would, of course, tend to further exacerbate weaknesses in grain prices.

Congress agreed on a comprehensive farm bill just prior to the holiday adjournment. The expected cost of the bill over its life is expected to be about 11 billion dollars, up from the amount desired by the administration. The primary beneficiaries from the enhancements will be sugar and peanut producers. The provisions for grain commodities remain quite austere compared to prior bills.

TABLE I
NATIONAL INDICATORS

| INDICATORS | | LATEST DATE | LATEST PERIOD | % CHANGE* | % CHANGE YEAR AGO |
|---|---|---|---|---|---|
| A. INCOME MEASURES | | | | | |
| GROSS NATIONAL PRODUCT | bil 72$ (Q) | 3RD | 1512.8 | .6 | 2.8 |
| DISPOSABLE PERSONAL INCOME | " | " | 1043.6 | 2.6 | 2.5 |
| PERSONAL CONSUMPTION | " | " | 964.6 | 4.0 | 3.6 |
| GROSS PRIVATE INVESTMENT | " | " | 220.0 | .6 | 12.7 |
| NET EXPORT OF GOODS/SERVICES | " | " | 39.8 | 3.4 | 2.8 |
| PERSONAL SAVINGS | " | " | 103.3 | 3.9 | 3.7 |
| SAVINGS RATE | % (Q) | " | 5.1 | (-.3)** | (-1.0) |
| B. LABOR FORCE | | | | | |
| CIVILIAN LABOR FORCE | th (M) | NOV | 107,029 | 3.2 | 1.5 |
| EMPLOYED | " | " | 98,025 | -2.4 | 1.0 |
| UNEMPLOYED | " | " | 9,004 | 6.4 | 7.0 |
| Unemployment Rates | | | | | |
| ALL | % (M) | " | 8.4 | (+.4) | (+.9) |
| MEN | " | " | 7.2 | (+.5) | (+.8) |
| WOMEN | " | " | 7.3 | (+.3) | (+.6) |
| TEEN | " | " | 21.8 | (+1.2) | (+1.5) |
| BLACK | " | " | 15.5 | (0) | (+1.5) |
| WHITE | " | " | 7.4 | (+.5) | (+.8) |

TABLE I
NATIONAL INDICATORS

| INDICATORS | | LATEST DATE | LATEST PERIOD | % CHANGE* | % CHANGE YEAR AGO |
|---|---|---|---|---|---|
| C. PRODUCTION | | | | | |
| CONSUMER GOODS | bil 72$ (Q) | 3RD | 685.1 | -.8 | 4.2 |
| DURABLE GOODS | " | " | 283.0 | -4.0 | 3.0 |
| NEW HOUSING STARTS | (M) | OCT | 8,570 | -84.0 | -45.0 |
| AUTOS | th (W) | DEC 10 | 98,559p | 12.1++ | -34.2 |
| BUSINESS FAILURES | " | DEC 3 | 443 | 115.0++ | 133.0 |
| D. PRICES | | | | | |
| Consumer Prices | | | | | |
| CPI-W, ALL ITEMS | 1967=100 (M) | OCT | 279.7 | 4.8 | 10.1 |
| CPI-U, ALL ITEMS | " | " | 279.9 | 4.8 | 10.2 |
| FOOD | " | " | 277.6 | 3.6 | 5.8 |
| HOUSING | " | " | 303.5 | 0 | 12.0 |
| APPAREL | " | " | 182.1 | 2.4 | 4.1 |
| TRANSPORTATION | " | " | 287.2 | 14.4 | 12.1 |
| MEDICAL | " | " | 304.8 | 12.0 | 20.9 |
| Producer Prices | | | | | |
| ALL COMMODITIES | " | NOV | 295.5 | -2.4 | 5.9 |
| INDUSTRIAL COMMODITIES | " | " | 309.1 | 4.3 | 9.0 |
| CRUDE MATERIALS | " | " | 314.1 | 1.8 | 3.4 |
| CAPITAL EQUIPMENT | " | " | 272.9 | 12.4 | 9.0 |
| Agricultural prices | | | | | |
| PRICES RECEIVED | 1977=100 (M) | NOV | 129p | -9.7 | -10.5 |
| PRICES PAID | " | " | 151p | 0 | 4.9 |
| PARITY RATIO | " | " | 85p | -14.4 | -15.0 |

TABLE I
NATIONAL INDICATORS

| INDICATORS | | LATEST DATE | LATEST PERIOD | % CHANGE* | % CHANGE YEAR AGO |
|---|---|---|---|---|---|
| E. BANKING AND FINANCE | | | | | |
| Money Supply Measures | | | | | |
| M1-A | bil $ (W) | DEC 2 | 364.7 | 1.3 | 6.6 |
| M1-B | " | " | 439.9 | .9 | 6.3 |
| TOTAL LIQUID ASSETS | bil $ (M) | SEPT | 2131.8 | -- | -- |
| Money Supply Components | | | | | |
| CURRENCY | bil $ (W) | DEC 2 | 122.2 | 0 | 5.4 |
| DEMAND DEPOSITS | " | " | 238.0 | 2.0 | -13.2 |
| SMALL TIME DEPOSITS (plus savings) | " | " | 509.6 | -.1 | 6.8 |
| Interest Rates | | | | | |
| PRIME RATE | % (W) | DEC 11 | 15.8 | (-.4) | (-3.5) |
| DISCOUNT RATE | " | " | 12.0 | (-.5) | (-1.0) |
| HOME MORTGAGE RATE | " | - | N.A. | -- | -- |
| 90 DAY CD'S | " | DEC 11 | 11.8 | (+.2) | (-8.2) |
| 3 MONTH T-BILLS | " | " | 10.4 | (0) | (-6.1) |

p=PRELIMINARY
*=AVE. ANNUAL RATES UNLESS INDICATED
++=NOT ANNUAL
**=NUMBERS IN PARENTHESES INDICATE ABSOLUTE CHANGE OF THE INDICATOR
M=MONTHLY
Q=QUARTERLY
W=WEEKLY

SOURCES: BUREAU OF ECONOMIC ANALYSIS
BUREAU OF LABOR STATISTICS
U. S. DEPARTMENT OF AGRICULTURE
FEDERAL RESERVE BANK OF ST. LOUIS

## TABLE II
## GENERAL BUSINESS INDICATORS

|  | Oct 1981 | Sept 1981 | % change | Avg. Prior 6 mos | Annual Avg. 1980 |
|---|---|---|---|---|---|
| Manufacturing |  |  |  |  |  |
| Average Work Week (hrs.) | 40.5 | 39.7 | 2.0 | 40.3 | 40.4 |
| Average Weekly Earnings (dollars) | 336.15 | 326.33 | 3.0 | 321.80 | 0.0 |
| Initial Claims for Unemployment Insurance | 11,257 | 8,998 | 25.1 | 9,915 | 13,811 |
| New Incorporations |  |  |  |  |  |
| In-state for Profit | 435 | 405 | 7.4 | 432 | 425 |
| Out-of-state | 128 | 144 | -11.1 | 128 | 99 |

Source: Research and Analysis Section
Division of Staff Services
Kansas Department of Human Resources

Kansas Secretary of State

TABLE III
NON-FARM WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK
(thousands)

| INDUSTRY | Oct 1981 | Sept 1981 | % change | Oct 1980 | % change |
|---|---|---|---|---|---|
| ALL INDUSTRIES | 957.8 | 958.4 | -0.1 | 952.4 | 0.6 |
| Manufacturing | 184.0 | 184.6 | -0.3 | 184.0 | 0.0 |
| Durable Goods | 118.5 | 119.3 | -0.7 | 118.1 | 0.3 |
| Stone,Clay,Glass | 6.9 | 7.3 | -5.5 | 7.5 | -8.0 |
| Primary Metals | 3.7 | 3.8 | -2.6 | 3.7 | 0.0 |
| Fabricated Metal Products | 12.0 | 12.1 | -0.8 | 12.1 | -0.8 |
| Machinery (incl. elec.) | 34.8 | 34.7 | 0.3 | 33.1 | 5.1 |
| Transportation Equipment | 48.9 | 49.1 | -0.4 | 49.8 | -1.8 |
| Aircraft & Parts | 41.5 | 41.7 | -0.5 | 42.5 | -2.4 |
| Other Durable Goods | 12.2 | 12.3 | -0.8 | 11.9 | 2.5 |
| Nondurable Goods | 65.5 | 65.3 | 0.3 | 65.9 | -0.6 |
| Food & Kindred Products | 23.4 | 22.8 | 2.6 | 23.2 | 0.9 |
| Meat Products | 8.9 | 8.9 | 0.0 | 8.7 | 2.3 |
| Apparel | 3.5 | 3.5 | 0.0 | 3.6 | -2.8 |
| Printing & Publishing | 15.1 | 15.3 | -1.3 | 15.6 | -3.2 |
| Chemicals | 8.4 | 8.4 | 0.0 | 8.6 | -2.3 |
| Petroleum & Coal | 4.8 | 4.9 | -2.0 | 4.9 | -2.0 |
| Other Nondurable | 10.3 | 10.4 | -1.0 | 10.0 | 3.0 |
| Mining | 17.2 | 17.3 | -0.6 | 15.7 | 9.6 |
| Oil & Gas Extraction | 15.3 | 15.4 | -0.6 | 13.7 | 11.7 |
| Contract Construction | 41.6 | 43.4 | -4.1 | 47.2 | -11.9 |
| Trans.,Comm.,Elec.,Gas | 65.4 | 65.5 | -0.2 | 64.1 | 2.0 |
| Wholesale Trade | 66.3 | 66.3 | 0.0 | 65.6 | 1.1 |
| Retail Trade | 164.8 | 164.3 | 0.3 | 162.4 | 1.5 |
| Finance,Insurance,Real Estate | 47.8 | 47.5 | 0.6 | 47.2 | 1.3 |
| Services | 180.4 | 180.5 | -0.1 | 173.9 | 3.7 |
| Federal Government | 26.3 | 26.4 | -0.4 | 26.5 | -0.8 |
| State & Local Government | 164.0 | 162.6 | 0.9 | 165.8 | -1.1 |

Source: Research and Analysis Section
Division of Staff Services
Kansas Department of Human Resources

## TABLE IV
## EMPLOYMENT - UNEMPLOYMENT DATA FOR KANSAS, STATE AND AREAS

| Area | Oct 1981 | Sept 1981 | % change | Oct 1980 | % change |
|---|---|---|---|---|---|
| Kansas - Statewide | | | | | |
| Civilian Labor Force | 1,221,700 | 1,223,700 | -0.2 | 1,222,600 | -0.1 |
| Employed | 1,178,600 | 1,182,700 | -0.3 | 1,174,300 | 0.4 |
| Farm | 65,200 | 69,400 | -6.1 | 66,700 | -2.2 |
| Non-Farm | 1,113,400 | 1,113,300 | 0.0 | 1,107,600 | 0.5 |
| Unemployed | 43,100 | 41,000 | 5.1 | 48,300 | -10.8 |
| Rate | 3.5% | 3.4% | | 4.0% | |
| Lawrence SMSA | | | | | |
| Civilian Labor Force | 35,800 | 35,400 | 1.1 | 35,800 | 0.0 |
| Employed | 34,400 | 34,000 | 1.2 | 34,400 | 0.0 |
| Farm | 800 | 900 | -11.1 | 800 | 0.0 |
| Non-Farm | 33,600 | 33,100 | 1.5 | 33,600 | 0.0 |
| Unemployed | 1,400 | 1,400 | 0.0 | 1,400 | 0.0 |
| Rate | 3.9% | 4.0% | | 3.9% | |
| Kansas portion of Kansas City SMSA | | | | | |
| Civilian Labor Force | 273,800 | 273,900 | -0.0 | 267,200 | 2.5 |
| Employed | 262,100 | 262,600 | -0.2 | 255,300 | 2.7 |
| Farm | 1,400 | 1,500 | -6.7 | 1,500 | -6.7 |
| Non-Farm | 260,700 | 261,100 | -0.2 | 253,800 | 2.7 |
| Unemployed | 11,700 | 11,300 | 3.5 | 11,900 | -1.7 |
| Rate | 4.3% | 4.1% | | 4.5% | |
| Topeka SMSA | | | | | |
| Civilian Labor Force | 93,900 | 93,800 | 0.1 | 94,600 | -0.7 |
| Employed | 89,200 | 89,500 | -0.3 | 89,600 | -0.4 |
| Farm | 1,900 | 2,000 | -5.0 | 2,000 | -5.0 |
| Non-Farm | 87,300 | 87,500 | -0.2 | 87,600 | -0.3 |
| Unemployed | 4,700 | 4,300 | 9.3 | 5,000 | -6.0 |
| Rate | 5.0% | 4.6% | | 5.3% | |
| Wichita SMSA | | | | | |
| Civilian Labor Force | 225,900 | 226,100 | -0.1 | 224,100 | 0.8 |
| Employed | 217,800 | 218,100 | -0.1 | 215,900 | 0.9 |
| Farm | 2,600 | 2,800 | -7.1 | 2,700 | -3.7 |
| Non-Farm | 215,200 | 215,300 | -0.0 | 213,200 | 0.9 |
| Unemployed | 8,100 | 8,000 | 1.3 | 8,200 | -1.2 |
| Rate | 3.6% | 3.5% | | 3.7% | |
| Barton Co. - Great Bend Area | | | | | |
| Civilian Labor Force | 18,450 | 18,425 | 0.1 | 18,200 | 1.4 |
| Employed | 18,075 | 18,025 | 0.3 | 17,800 | 1.5 |
| Farm | 975 | 1,025 | -4.9 | 975 | 0.0 |
| Non-Farm | 17,100 | 17,000 | 0.6 | 16,825 | 1.6 |
| Unemployed | 375 | 400 | -6.3 | 400 | -6.3 |
| Rate | 2.0% | 2.2% | | 2.2% | |

TABLE IV
EMPLOYMENT - UNEMPLOYMENT DATA FOR KANSAS, STATE AND AREAS

| Area | Oct 1981 | Sept 1981 | % change | Oct 1980 | % change |
|---|---|---|---|---|---|
| Crawford Co. - Pittsburg Area | | | | | |
| Civilian Labor Force | 16,900 | 16,700 | 1.2 | 17,175 | -1.6 |
| Employed | 16,075 | 15,850 | 1.4 | 16,350 | -1.7 |
| Farm | 875 | 925 | -5.4 | 900 | -2.8 |
| Non-Farm | 15,200 | 14,925 | 1.8 | 15,450 | -1.6 |
| Unemployed | 825 | 850 | -2.9 | 825 | 0.0 |
| Rate | 4.9% | 5.1% | | 4.8% | |
| Lyon Co. - Emporia Area | | | | | |
| Civilian Labor Force | 18,075 | 18,075 | 0.0 | 17,875 | 1.1 |
| Employed | 17,425 | 17,400 | 0.1 | 17,200 | 1.3 |
| Farm | 850 | 900 | -5.6 | 875 | -2.9 |
| Non-Farm | 16,575 | 16,500 | 0.5 | 16,325 | 1.5 |
| Unemployed | 650 | 675 | -3.7 | 675 | -3.7 |
| Rate | 3.6% | 3.7% | | 3.8% | |
| Montgomery Co. - Coffeyville Area | | | | | |
| Civilian Labor Force | 21,875 | 21,925 | -0.2 | 21,350 | 2.5 |
| Employed | 21,100 | 21,225 | -0.6 | 20,350 | 3.7 |
| Farm | 625 | 650 | -3.8 | 625 | 0.0 |
| Non-Farm | 20,475 | 20,575 | -0.5 | 19,725 | 3.8 |
| Unemployed | 775 | 700 | 10.7 | 1,000 | -22.5 |
| Rate | 3.5% | 3.2% | | 4.7% | |
| Reno Co. - Hutchinson Area | | | | | |
| Civilian Labor Force | 29,825 | 32,075 | -7.0 | 31,250 | -4.6 |
| Employed | 28,425 | 30,700 | -7.4 | 29,350 | -3.2 |
| Farm | 1,375 | 1,450 | -5.2 | 1,400 | -1.8 |
| Non-Farm | 27,050 | 29,250 | -7.5 | 27,950 | -3.2 |
| Unemployed | 1,400 | 1,375 | 1.8 | 1,900 | -26.3 |
| Rate | 4.7% | 4.3% | | 6.1% | |
| Riley Co. - Manhattan Area | | | | | |
| Civilian Labor Force | 21,675 | 21,550 | 0.6 | 22,000 | -1.5 |
| Employed | 20,900 | 20,775 | 0.6 | 21,200 | -1.4 |
| Farm | 1,100 | 1,150 | -4.3 | 1,125 | -2.2 |
| Non-Farm | 19,800 | 19,625 | 0.9 | 20,075 | -1.4 |
| Unemployed | 775 | 775 | 0.0 | 900 | -13.9 |
| Rate | 3.6% | 3.6% | | 4.1% | |
| Saline Co. - Salina Area | | | | | |
| Civilian Labor Force | 26,625 | 26,550 | 0.3 | 26,900 | -1.0 |
| Employed | 25,425 | 25,425 | 0.0 | 25,675 | -1.0 |
| Farm | 725 | 800 | -9.4 | 750 | -3.3 |
| Non-Farm | 24,700 | 24,625 | 0.3 | 24,925 | -0.9 |
| Unemployed | 1,200 | 1,125 | 6.7 | 1,225 | -2.0 |
| Rate | 4.5% | 4.2% | | 4.6% | |

Source: Research and Analysis Section
Division of Staff Services
Kansas Department of Human Resources

TABLE V

COMERCIAL AND BANKING ACTIVITY FOR MEMBER BANKS
(MILLION OF DOLLARS)

|  | Oct 1981 | Sept 1981 | % CHANGE | Oct 1980 | % CHANGE |
|---|---|---|---|---|---|
| Kansas - Statewide |  |  |  |  |  |
| Loans | 3,786 | 3,776 | 0.3 | 3,531 | 7.2 |
| Demand Deposits | 1,781 | 1,792 | -0.6 | 2,091 | -14.8 |
| Time & Saving Deposits | 4,651 | 4,651 | 0.0 | 3,943 | 18.0 |
| Loan to Deposit Ratio | 58.9% | 58.6% |  | 58.5% |  |
| Kansas City (Wyandotte) |  |  |  |  |  |
| Loans | 195 | 197 | -1.0 | 198 | -1.5 |
| Demand Deposits | 99 | 100 | -1.0 | 117 | -15.4 |
| Time & Saving Deposits | 219 | 216 | 1.4 | 204 | 7.4 |
| Loan to Deposit Ratio | 61.3% | 62.3% |  | 61.7% |  |
| Topeka (Shawnee) |  |  |  |  |  |
| Loans | 259 | 255 | 1.6 | 258 | 0.4 |
| Demand Deposits | 170 | 164 | 3.7 | 179 | -5.0 |
| Time & Saving Deposits | 291 | 285 | 2.1 | 246 | 18.3 |
| Loan to Deposit Ratio | 56.2% | 56.8% |  | 60.7% |  |
| Wichita (Sedgwick) |  |  |  |  |  |
| Loans | 736 | 734 | 0.3 | 685 | 7.4 |
| Demand Deposits | 493 | 498 | -1.0 | 531 | -7.2 |
| Time & Saving Deposits | 689 | 686 | 0.4 | 602 | 14.5 |
| Loan to Deposit Ratio | 62.3% | 62.0% |  | 60.5% |  |

Source: Research Department
Federal Reserve Bank of Kansas City
Institute for Economic and Business Research

TABLE VI
SAVINGS AND LOAN ACTIVITY
(thousands of dollars)

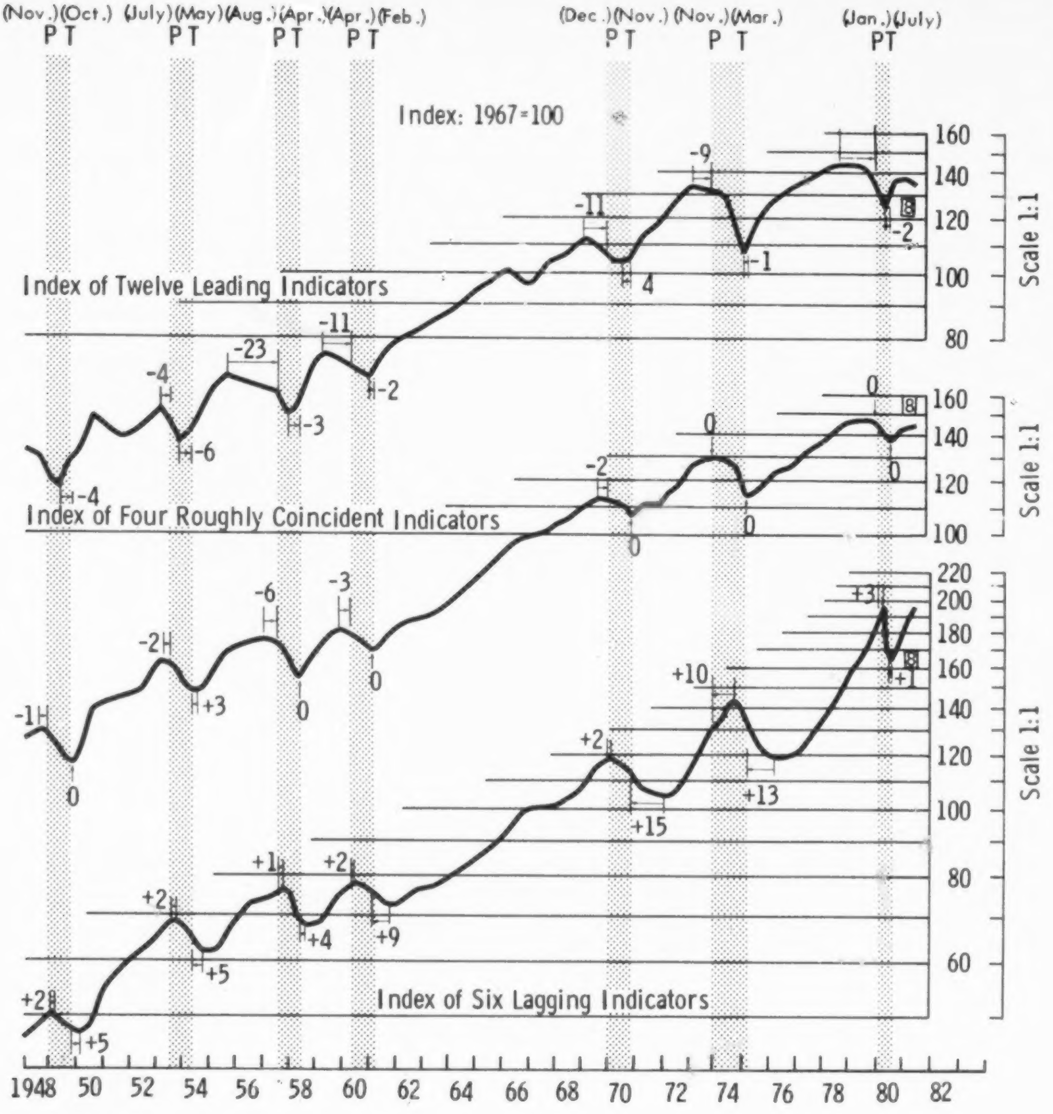
| | Oct 1981 | Sept 1981 | % change | Oct 1980 | % change |
|---|---|---|---|---|---|
| Net New Savings | 19,100 | -29,100 | -165.6 | 21,500 | -11.2 |
| Mortgage Loans Made | 49,100 | 46,400 | 5.8 | 118,900 | -58.7 |

Source: Federal Home Loan Bank of Topeka

TABLE VII
PRICES RECEIVED BY KANSAS FARMERS
(dollars)

| Items | Oct 1981 | Sept 1981 | % change | Oct 1980 | % change | Annual Avg. 1980 |
|---|---|---|---|---|---|---|
| Prices Received by Farmers | | | | | | |
| Field Crops | | | | | | |
| Wheat (bu.) | 3.82 | 3.74 | 2.1 | 4.14 | -7.7 | 3.75 |
| Corn (bu.) | 2.50 | 2.58 | -3.1 | 3.27 | -23.5 | 2.85 |
| Sorghum (cwt.) | 3.82 | 3.94 | -3.0 | 5.27 | -27.5 | 4.55 |
| Hay (ton) | 54.00 | 54.00 | 0.0 | 70.50 | -23.4 | 54.92 |
| Soybeans (bu.) | 5.77 | 5.98 | -3.5 | 8.00 | -27.9 | 6.64 |
| Livestock & Products | | | | | | |
| Beef Cattle (cwt.) | 55.60 | 59.30 | -6.2 | 63.00 | -11.7 | 64.73 |
| Calves (cwt.) | 63.30 | 65.30 | -3.1 | 75.80 | -16.5 | 75.86 |
| Hogs (cwt.) | 42.90 | 47.10 | -8.9 | 46.30 | -7.3 | 37.92 |
| Lambs (cwt.) | 51.20 | 49.90 | 2.6 | 66.10 | -22.5 | 63.66 |
| Sheep (cwt.) | 20.00 | 24.20 | -17.4 | 14.70 | 36.1 | 22.77 |
| Milk (cwt.) | 14.30 | 14.00 | 2.1 | 13.70 | 4.4 | 13.05 |
| Prices Paid by Farmers | | | | | | |
| Soybean Meal (cwt.) | 13.00 | 13.00 | 0.0 | 14.50 | -10.3 | 12.58 |
| Bran (cwt.) | 8.20 | 8.40 | -2.4 | 8.30 | -1.2 | 8.30 |
| Beef Conc. (cwt.) | 11.00 | 11.50 | -4.3 | 11.00 | 0.0 | 10.41 |
| 16% Dairy Feed (ton) | 189.00 | 205.00 | -7.8 | 191.00 | -1.0 | 174.58 |
| Hog Conc. (cwt.) | 14.50 | 15.00 | -3.3 | 16.20 | -10.5 | 14.65 |
| Laying Feed (ton) | 210.00 | 210.00 | 0.0 | 225.00 | -6.7 | 200.75 |

Source: Kansas Crop and Livestock Reporting Service
Kansas State Board of Agriculture
U. S. Department of Agriculture



Source: Bureau of Economic Analysis

A new feature to *KBR* is a graph of cyclical economic indicators. The graph is taken from the *Business Conditions Digest*, a monthly publication prepared by the Office of Statistical Policy and Standards, an office within the Bureau of Economic Analysis. The graph consist of three composite indexes. The top line refers to the index of leading indicators. The middle line corresponds to the index of coincident indicators. The line at the bottom plots the index of lagging indicators. Each index is developed from a set of "components." These components are time series for certain economic variables. For example, the index of leading indicators is generated from the movement over time of certain individual indicators (variables) which tend to lead the broad movements in aggregate economic activity. More specifically, changes in economic variables such as the number of building permits, the number of new orders for consumer goods, and the length of the average work week, tend to foreshadow the general movement of the economy, i.e., an increase in the number of building permits possibly foretells an improvement of the whole economy. The index of leading indicators is composed of the three variables mentioned above along with nine other indicators. The index of coincident indicators is similarly developed and is generated from those components (four in total) whose movement coincides with the movement of the aggregate economy. These variables most likely hit a peak or a trough at the same time as the national economy. Examples of such variables are total industrial production and personal income (less transfer payments). The index of lagging indicators has six components. The movement of these variables, which include the average prime rate and labor costs (per unit of output), tend to follow or lag behind the movement of the economy as a whole.

The shaded regions of the graph indicate the time span in which the national economy was in a contraction. The left border of such regions signifies the peak; the left border the trough. The peaks and troughs of the index of leading indicators should precede the peaks and troughs of the national economy. It has done so, as told by the numbers on the chart which indicate the length of leads (−) in months from the national turning points. The index of coincident indicators should turn at the same time as the national economy. It, too, has done so, as evidenced by the 1973-1975 and 1979-1980 recessions. And lastly, the turning points for the index of lagging indicators should follow like-movements in the national economy. The length of the lags in months is, again, indicated by the numbers on the graph.

Although the indexes appear to do their job in general—that of forecasting swings in the national economy both up and down—they suffer a number of weakness. Notably, the components used in each of the indexes are based primarily on historical records; therefore, theoretical grounds are meager. Also, the indexes are not always correct. For example, the index of leading indicators fell from early 1966 to late 1966, indicating a possible downturn in the national economy in the near future. That downturn never materialized as shown by the two other indexes. Furthermore, it should be noted that the indexes are basically descriptive, not interpretive. For instance, no set or absolute number of months of decline necessarily means a recession is on the way. Also, the indexes' magnitude of movement is not always a reliable forecast to the magnitude of change in national economic activity. The point is that the indexes' information should be carefully analyzed.

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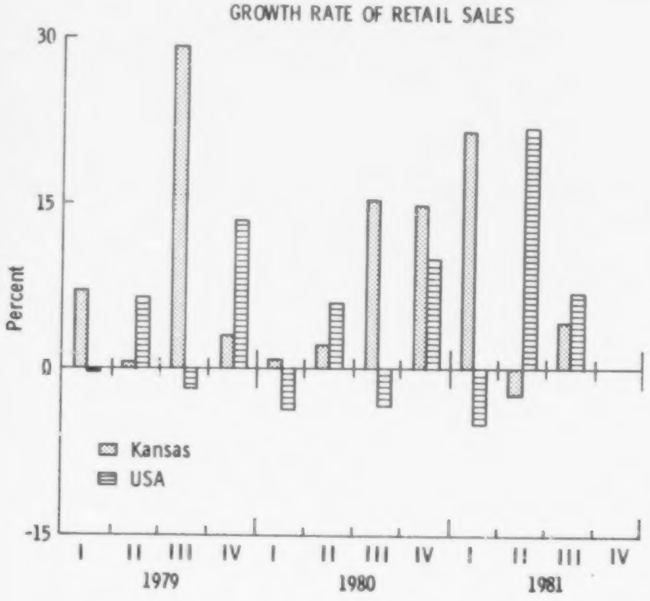
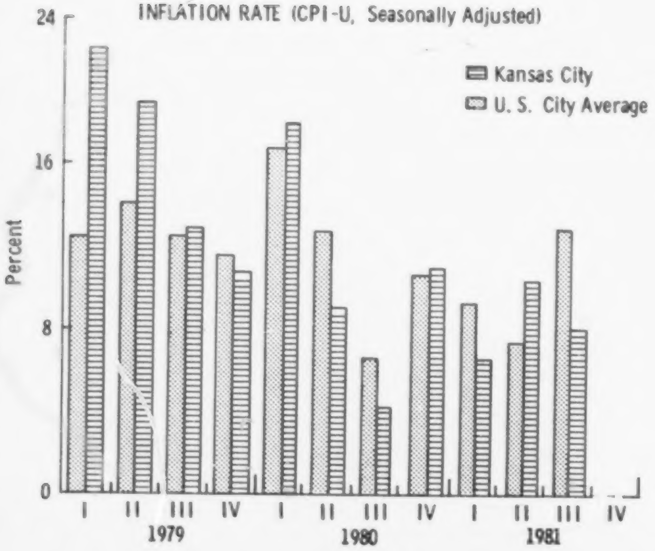

GROWTH RATE OF RETAIL SALES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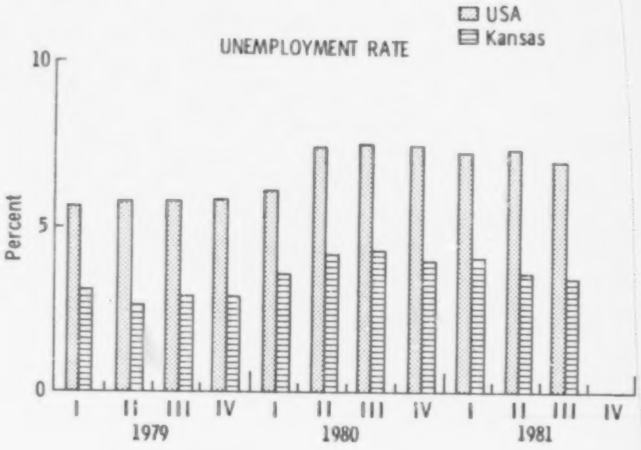
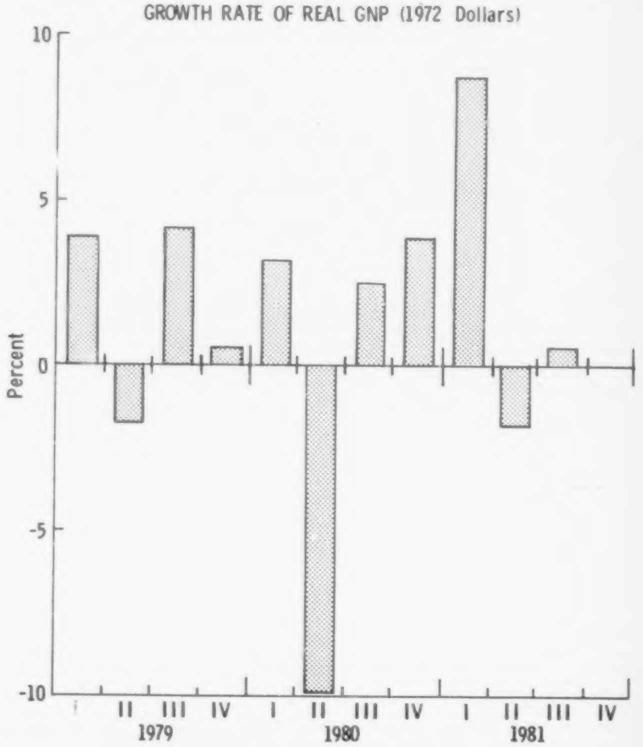

UNEMPLOYMENT RATE


GROWTH RATE OF REAL GNP (1972 Dollars)

# KANSAS BUSINESS REVIEW

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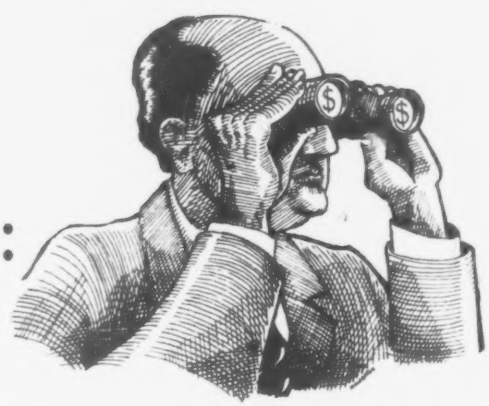

# The Economic Outlook: Principles and Policies

### Robert J. Gordon

**Dr. Gordon, Professor of Economics at Northwestern University, is a nationally recognized expert on macroeconomics and economic theory and policy. He received undergraduate degrees from Oxford University and Harvard College and his Ph.D. from the Massachusetts Institute for Technology. Professor Gordon is the author of numerous technical and scientific articles and books. His text, *Macroeconomics*, is considered by many to be the authoritative work in the field. Dr. Gordon was a featured speaker at the Economic Outlook Conference—1982 held in December at the University of Kansas. The following article is a transcript of his address.**

My theme today is that economists know far more than they are given credit for knowing. Although 20 economists speaking in a room may sound like an indecipherable babble to, say, journalists or to an undergraduate who has not yet learned his economics from the right source, the fault lies with the absence of an instruction book on how to listen to economists. The first chapter in this instruction book will be my initial text, and, in light of its lessons, I will, in time, address Reagonomics and the 1982 outlook.

To proceed, then, with our instruction book: We want to pay particular attention to what we should *not* listen to economists say. We could go into a cocktail party, listen to the 20 babbling economists, and, if we have some rules, ignore what 15 of them are saying. This process of elimination will *simplify our task considerably in trying* to find out what the truth is. Thus, Rule 1 in Chapter 1 of our instruction book: When listening to economists, the first and greatest mistake is the assumption that they are taught how to forecast what will happen next week or next month. There is a good reason why economists are not very good at short-term forecasting. They are taught to relate economic variable A—let's say industrial production—to variables B and C. Well, A might be industrial production, B might be the money supply, and C might be business attitudes. To predict A, of course they will need to know what B and C are going to be, and they will make mistakes. In particular, there is no reason why economists should be any better than professional speculators on Wall Street in predicting changes in the money supply since the professional speculators have a lot more riding on the right forecast. Likewise, why should economists be any better than businessmen or journalists in understanding business attitudes? In fact, most economists I know have never met a businessman except in their trips to the bank or shoe repair store. In fact, most of the economists I know, including myself, learn about business attitudes by reading *The Wall Street Journal, Fortune*, and *Business Week*. In other words, we get our own information filtered through the eyes of the journalists.

Rule 2: The advice of economists will *not* make you rich in the stock or bond market. There are only a few rich economists and, with the exception of John Maynard Keynes, they did not accumulate their initial wealth by clever speculation. But at least economists have done one thing—they have invented a theory to explain why you should not listen to them. This is *called the theory of efficient markets*, and it states that it's always too late to make money by listening to advice because current market prices contain all of the available information. The best we can do is to look into the past and try to understand what forces explain changes that have already occurred in auction market prices, in the commodity exchange, or in the stock market.

Rule 3: Not only are economists unable to forecast future movements in stock and bond prices, they have *not* been doing very well lately in understanding historical levels of stock prices. The best recent research by economists at conferences presented in the last year or two admits that they just do not understand why stock prices have been so low in the last decade or why bond prices have been so high. It sounds unbelievable to think of bond prices as being too high but, with the possible exception of the past six to nine months, we just do not understand why bond prices have not fallen more given the high inflation we've had and the taxation of nominal interest returns. Further, we don't understand the psychology of the speculative stock market bubble of 1928 and '29. And this is a good example of what economists are good at and bad at. We may not understand what happened to the stock market in 1928 and '29, but we're rather good at working out how you would analyze the effects of that stock market boom and then crash on the evolution of the Great Depression. With that example in mind, we might better treat the stock market as one of these "B" variables which helps to explain industrial production or inflation rather than the "A" variables that we're trying to predict.

Rule 4: The economic game of explaining A's relation to B and C works best when we aggregate over time and across people. When forced to prognosticate, I stick to the national economy because things tend to have a way of averaging out. We economists do better in explaining yearly movements than weekly movements. We're on much better ground in relating inflation to the growth of the money supply over, say, the decade of the '70s compared to the decade of the '50s than we are in trying to connect inflation to monetary behavior on a monthly or weekly basis. The same rule applies to aggregation across people. We're more successful in explaining why U.S. citizens are richer than the average citizen of Mexico than in explaining why Mr. Smith is richer than Mr. Jones. We are particularly good at analyzing the effects of intervention in markets. We may not be able to predict next week's price of plywood or butter, but we do understand why price controls in 1972 created a shortage of plywood and why the price supports have created a mountain of surplus butter in the European Common Market.

**The advice of economists will not make you rich in the stock or bond market.**

Rule 5: Economists have *not* been very successful in explaining or understanding the long-run growth trends of the U.S. economy. Along with the mystery of low stock market prices, we have to confess that we do not fully understand the reasons for the slowdown in our long-run growth trend, nor do we understand completely why U.S. productivity growth both before and after 1973 was less than in Germany, France, and, particularly, Japan. On the positive side, we're pretty good at calculating the contribution of the saving and investment process to our long-run growth. We can be pretty sure that only a small part of the productivity puzzle, that is, why our growth trend has slowed down as much as it has, can be explained by low savings and investment. Consequently, the upsurge in savings and investment that the Reagan administration is counting on to salvage its economic policies—even if this were to occur in 1982 and '83—would contribute only marginally to raising the growth rate of natural or potential output.

The last rule: Whereas we do badly in *predicting* the long-run growth trend from one decade to the next, we do much better in explaining the causes of deviations of actual production from that trend. Let's start from a hypothetical 6.0 percent unemployment rate. This figure seems from past evidence, surprisingly perhaps, to be consistent with a constant rate of inflation, that is, with inflation neither speeding up nor slowing down, when we are free from the influence of so-called supply shocks like increases in the price of oil. Now, if we were to assume, somewhat optimistically at the moment, that the growth rate in our natural rate GNP (you can think of this as the production we can produce at a constant unemployment rate) were 3.0 percent, then it's pretty simple arithmetic to calculate that actual production has to grow every year at 3.0 percent to keep constant the unemployment rate and to keep constant the ratio of actual to natural rate GNP.

By the way, the reason this is called natural is one more testament to the influence that Milton Friedman has had on the economics profession. In his Presidential address to the American Economic Association 13 years ago, he coined the term "natural rate of unemployment" for the unemployment rate at which the economy was pretty well in balance with no tendency for inflation to speed up or slow down. So we've picked up that terminology and gone back and forth between the idea of natural unemployment and natural output. I want to focus on those. They key concept here is the ratio of what we are actually producing to this natural 6.0 percent unemployment concept of real GNP. And because it would be nice to have a shorter name for this ratio, I am going to call it the output ratio (output ratio $= \frac{\text{Actual GNP}}{\text{Natural GNP}} \times 100$). For that output ratio to remain constant, production has to grow, let's say, 3.0 percent. If production stays flat, our output ratio falls by 3.0 percent, say from 100 to 97. If we have a really boom explosive growth year, with actual output production going at 6.0 percent, then our output ratio will grow by the rate of growth of actual production minus the trend. In other words, it'll grow from, say, 100 to 103. Why is the output ratio so important? Why do I dwell on it? For one thing, there is a very tight relationship year after year between this ratio and the overall nationwide unemployment rate. A 1.0 percent change in output ratio from 100 to 99 or from 100 to 101 is followed within just a few months by a change in the unemployment rate in the opposite direction. Unemployment goes up when production goes down. That change is about 0.4 percent per percentage point change in the output ratio.

I will give you an example that puts some specific numbers in these concepts. The output ratio of the U.S., as best as I can measure it, fell from about 101 percent in late 1978 to around 96 percent in the third quarter of 1981. This 96 percent is where we were when we began the current economic slide. In actual numbers, real GNP was about 1510 billion in the third quarter of 1981 and the natural output—what we could have produced at a 6.0 percent unemployment rate—was about 1575 billion. The drop of 5.0 percent in the output ratio between late 1978 and the most recent quarter was accompanied by a jump of about 2.0 percent in the unemployment rate, from around 5.5 percent to around 7.5 percent. This tight relationship between declines in the output ratio, rises in unemployment, or vice versa, is called Okun's Law, named after the late Arthur Okun. It works very well as long as we are pretty careful to allow for shifts up and down in the economy's long-run growth trend. And, in fact, the unemployment rate that comes out every month is one of our best clues as to where our productive capacity is at the moment and how fast it's growing.

That's the end of the first chapter of this instruction book. We have listed a number of things economists cannot explain, cannot predict. But one thing they can predict is the relation of unemployment to the output ratio. Of course, all this is just the beginning. We need a second chapter because it is not enough just to know that if conditions are lousy unemployment will be high. We want to know when or whether conditions are going to be lousy, and we want to know how the output ratio will relate to other important factors, particularly the inflation rate. Naturally, this is where the subject becomes a little more controversial.

A lot of speeches such as this one dive right in, probably in about the second minute, to the controversies among current schools of thought in economics or among groups within the administration. You have the old-Keynesians who debate the neo-Keynesians who then debate the monetarists Mark I and Mark II who then confront the Kemp-Roth supply-siders who are then pushed off the

**When listening to economists, the first and greatest mistake is the assumption that they are taught how to forecast what will happen next week or next month.**

ship of state to reappear—much like Captain Bligh—as the gold standard supply-siders. Although I don't want to be accused of putting off to the speech's end any judgments on these disputes—thereby running out of time to discuss them—I do believe firmly that what economists talk about should be based on the way the economy has actually behaved in the past, not on how some stylized school of thought says the economy ought to behave.

We can make enormous progress in understanding what has gone wrong with Reagonomics so far or what is likely to go wrong over the next year if we split up our analysis of aggregate economic behavior into two parts: aggregate demand and aggregate supply.

I have very special definitions of these parts, which will be the subject of our second chapter. By aggregate demand, I mean those factors that determine the growth rate of current dollar spending on goods and services (usually called the growth in nominal GNP).

By aggregate supply, I mean a very limited notion of supply; I mean the factors that determine the division of nominal GNP growth between inflation and the growth in real output. There is one thing we can be sure about—because it's a definition—and that is the growth in our current dollar spending must be divided between inflation and the growth in real spending; that is, real GNP, corrected for changes in prices.

Let's take these two parts of our forecasting problem in turn. Regarding the demand side, 15 years ago, maybe 10 years ago, there was an active controversy between monetarists and Keynesians regarding the determinants of nominal GNP growth. Eventually this debate petered out, despite what you may read in the press, because most sensible people now admit that, while monetary and nonmonetary factors matter, the fundamental determinant of nominal GNP growth, over periods of a year or longer, is the growth in the money supply. This conclusion is based, as it should be, on the actual behavior of the economy in the past, and let me remind you that after periods of slow growth in the money supply, we had prompt downturns in nominal GNP growth in 1957, 1960, 1966, 1969, and 1974. And now I might add 1981. Periods of fast growth in nominal GNP followed fast growth in the money supply in 1967, 1968, 1972, 1977, 1978, and late 1980-early 1981. So we do have lots of history backing up this belief that it does help to pay attention to the money supply.

Now that I have stressed the relationship between money and nominal GNP growth on an annual basis—or on the basis of a change over four quarters averaged together—quite clearly I do not want to tie this down by trying to predict nominal GNP growth on a quarter-to-quarter basis. After all, that would violate Rule 1 of the first chapter of our book—we can't do that. Large economic forecasting groups like Data Resources, Inc. (DRI) charge corporations thousands of dollars for detailed forecasts, but these are revised so frequently that they are not worth the paper they are printed on, much less the commissions paid to McGraw-Hill beyond the cost of the paper and the computer time. And there really is absolutely no relationship between the DRI forecast for the current quarter and its forecast made six months ago. Maybe we should have a Ph.D. dissertation done on the speed with which DRI can change its forecast in light of changes in the actual turn of events.

It is now fashionable in some quarters to debunk the relationship between money and nominal GNP growth. Alan Blinder, in a recent issue of *Challenge* magazine, boldly announced that monetarism is now an anachronism. Monetarism simply makes no sense in a world where financial reform and innovation are changing the meanings of the various money supply concepts and playing havoc with their demand functions. His conclusion is that the Federal Reserve decided to embrace monetarism at precisely the wrong time, but his verdict is premature. Changes made in the financial market structure by financial innovations have been going on for a long time. What is remarkable about the situation of the past decade is how little variation there has been in the year-to-year changes in nominal GNP relative to the money supply. This does not mean that we know precisely how to control either of them. But I do submit that, if we want to achieve a slowdown in nominal GNP growth over the next couple of years by two or three percentage points compared to the average of the last two or three years, the best way to do so is to slow down the growth rate of money by the same number of percentage points. The main impact of financial reforms actually has not been to destroy the relationship between money and nominal GNP growth but, rather, to make interest rates more volatile. In the old days, it used to be (with all of us forced to keep our savings in passbook savings accounts at a 5.0 percent interest rate) that a small increase in interest rates on financial markets and Treasury bills would suffice to pull funds out of the savings and loans. In turn, this would create a recession in the housing market and bring the economy very rapidly into a recession. This chain of circumstances is what happened in 1969 and almost happened in 1966. But financial reforms that have allowed savers to earn the market interest rate without much effort have insulated spending from the old kind of two percent point changes in interest rates. Now it takes interest rates jumping from 10 percent to 20 percent to really cause the economy to move into a recession. Here, interest rate behavior is changed as a result of financial rate innovations rather than by the destruction of the predictive powers of money behavior and the wisdom of controlling money if we want to control the overall growth of demand.

In the same issue of *Challenge,* one might find more proof that Rule 1 is a good standard to follow and that one should never try to predict very short periods. In an article that was written only four months ago, Henry Kaufman, the noted Wall Street guru, ignores both Rule 1 and the influence of money on nominal spending and forecasts robust economic growth in the U.S. economy in the fourth quarter of 1981 and the first quarter of 1982. Almost everything, down to the letter, in Kaufman's article has already turned out to be wrong, showing again the futility of forecasting events quarter by quarter.

Let us turn now to aggregate supply. The issue is how the predicted path of nominal GNP growth, which we are going to work out as the consequence of the Federal Reserve's policy, will be divided up between inflation and the growth in real GNP. (I want to remind you that when I mention aggregate supply, it is just a buzz word for the idea of dividing up nominal spending growth between prices and quantities, and it does not refer to the supply-side debate about how tax incentives are going to cause an explosion of savings and investment.) I do have one definition that is absolutely central, and it is a definition that is not controversial at all. Nominal GNP growth has to be divided by inflation and real GNP growth. And the trick, which turns this innocuous definition into something really useful, is to adjust both real GNP growth and nominal GNP growth for what I call the output trend—or, more technically, the growth in natural real GNP. When you do that, you get this definition, which is in all good undergraduate intermediate textbooks: The change in the output ratio is equal to the excess in nominal spending growth over real natural GNP growth, minus the rate of inflation. (We know that this definition is already going to be important because once we have the right hand side of this equation we will know how to predict unemployment.) To see how this works, first look at the simplest case—the very long run. Since this output ratio is a ratio of something to its trend, it clearly cannot be changing over periods as long as a decade. The output ratio is going to be constant over the long run. What is that equal to? This thing that cannot change over the long-run is equal to the excess of our nominal spending growth over the growth in our long-run capacity to produce, minus the inflation rate. What does that say? It says that in the long run, inflation must be equal to excessive nominal spending growth—that is, excessive in relation to our growth in real capacity to produce. It is in that sense that inflation is really a monetary phenomenon. It is money that produces excessive spending growth. It has produced growth in nominal GNP at a rate that is 8, 9, or 10 percent faster than the rate of growth in our capacity to produce during the past few years. That spending growth accounts for inflation. If we stopped the spending growth, inflation would respond. The key question is what happens to the economy, and how fast it changes, during the process of adjustment. This is where things get interesting.

**Our current economic malaise is the consequence of our struggle to get rid of inflation.**

Many debates about economic policy can be translated into statements about the speed with which inflation will respond to changes in excess nominal GNP growth. In my textbook, the term is "adjusted nominal GNP growth," which is calculated by subtracting out the 3.0 percent or 2.5 percent growth in our capacity to produce. If inflation could respond instantly to changes in nominal spending, we would not have economic problems like those we read about every day in the newspaper. If the Administration could have come in on January 20, and somehow managed to reduce excess spending growth from 10 percent to 0 percent by January 21, and if inflation responded on January 22, then by definition the two things on the right-hand side of my equation would have been equal. There would have been no change in the output ratio on the left-hand side. We would have had no increase in unemployment, and everyone would have been very happy.

Let us make a couple of propositions about the inflation process and see why it did not work out that way. The first proposition is that inflation responds slowly to changes in excess spending growth. In the short run, by our definition, if you try to pull down excess spending growth and inflation does not respond fully, then, on the left-hand side of my equation, the output ratio is going to fall and unemployment will increase. My current estimate is that about one quarter of a slowdown in excess spending growth will slow inflation in the first year, leaving the other three quarters to pull down the output ratio and to raise unemployment. In the long run, however, this is not true. Every year, more and more of the slowdown in excess spending growth, which has been achieved by monetary policy, will take the form of slower inflation. Every year less of it will take the form of a lower output ratio, and eventually the output ratio will hit bottom and begin to recover. Unemployment will peak out and begin to fall. In the long run, inflation will fully respond, and unemployment will return to wherever it started.

But how long is the long run? Some people are very pessimistic; they think it will take ten years for this adjustment to take place. I'm a midway optimist, by some standards, and think that the long run will more or less be here in five years. Unfortunately, that is one year too long for our presidential terms, and life may be a little bit uncomfortable in the fourth year. It is interesting that in Britain they have five years, which is the maximum time between Parliamentary elections, and I think that Mrs. Thatcher wishes that it could be six or seven.

We have two responses: 1) the slow short-run response of inflation; 2) the complete long-run response. Most people agree on this dichotomy but they differ on the reasons and speed for that short-run partial adjustment. One proposition is that we just cannot explain inflation totally as a passive reaction to changes in excessive spending growth because inflation also lives a life of its own. That is, there is a core rate of inflation, to use the terminology that was coined by Otto Eckstein and DRI. There is a core rate of inflation that can be viewed as a passive reaction to past excessive spending growth. We are now living the consequences of fast spending growth during much of the Carter period and earlier. We are going to see a slow response downward in that inflation rate if the Federal Reserve sticks to its current targets. But there is also the so-called "shock component" of the inflation rate that can bounce around, adding or subtracting from the core rate of inflation. The most important contribution in the last decade to shock inflation has been changes in the relative price of oil, of course. When the relative price of oil went up in '73, '74, or in '79, these increases added to the core rate of inflation. When the relative price of oil leveled off, as it did in '75, '76, and late '81, it pulled our inflation rate down below the core rate. There is a chance of that happening further over the next year or so.

Another important factor to recall when analyzing the events of the past is that government intervention in the price system—particularly the Nixon controls and the rebound of prices that took place in '74 when the controls were eliminated—could really mess up our understanding of the inflation process. You just cannot understand why inflation was 12 percent in 1974 unless you tack the oil price factor and the Nixon control rebound onto the underlying core rate of inflation. In the United Kingdom, if we were talking about this topic, we would want to mention value-added taxes and retail sales taxes. If their central government controls those taxes, they can cause major changes in the inflation rate over a short period.

If the Federal Reserve were holding a tight rein on the money supply, then our wonderful definition will help us understand some of the things that have gone wrong. Suppose excess spending growth is proceeding at a given rate, say 8.0 percent, and there is a sudden surge in shock inflation. This is subtracted from the right-hand side of our equation, and it will pull down our output ratio. Much of the story of the 1975 recession, and why it was so serious, was that we had all this shock inflation. Higher prices chewed up the available money supply and caused or led to a smaller leftover amount of money available to support real production. As a result, we went into a tailspin.

One last response concerning the inflation process is the reaction of core inflation to changes in nominal GNP. This response is different in the post-war United States than it is in most other countries, and it is different now than it was in the United States before World War II. Briefly, this sluggish price phenomenon—the inability of inflation to slow down promptly—is a unique U.S. phenomenon. It is not as true in Japan; it is not as true in Western Europe. And there are two leading economic hypotheses floating around these days about why this country behaves in such a strange way.

One set of ideas goes under the name of "rational expectations." The price adjustment process according to this idea, which is associated with Robert Lucas at the University of Chicago and Thomas Sargent at the University of Minnesota, is influenced by the response of the people to policymaking. The reason our prices slow down in such a sluggish way is that people don't believe the policymakers plan to stick to their policies. They have seen that every time unemployment rises in the past there is an explosion of monetary growth and a rapid recovery, and they believe the same thing will happen again. Thus, wage-setters and price-setters do not respond to that initial phase of economic restriction. They think that it is going to go away, and that they can get away with charging high prices. This is the "rational expectations" view.

The other approach, and this is the one that I tend to favor, is that the United States is unique, and it is no coincidence that it is only in the post-war period that we have had this problem of slow adjustment. It is our system of union contracts staggered at three-year intervals that sets patterns for most of the U.S. economy and that accounts for our sluggish wage and price behavior. In detailed, econometric studies, I've located the beginnings of this pattern of slow price adjustment at 1950. I do not think that is much of a coincidence. The first three-year contract, or the first "multi-year" in the United States, was signed in 1948. The "rational expectations" view just cannot explain why the process of price adjustment in the United States in the post-war period has been so stable, so sluggish, despite the vast changes in economic policy we have had. From the Eisenhower years of tight money, to the "go-go" years of the 1960s, to the tight money again in the recent past, the behavior of prices in response to nominal GNP has been quite predictable and quite stable. And it is just very consistent with the institutional view and not at all consistent with the "rational expectations" appraoch. Now, to see how this works, just compare the United States and Japan.

In Japan, there are one-year contracts, 80 percent of which expire between April and June. Let us say you were in charge of the central bank, and you wanted to slow down nominal spending growth and have that mainly affect inflation and not create a recession, i.e., a slowdown in production. In Japan the wage- and price-setters can respond instantly. If you get together with them around April 1st and say, "We are going to slow down money growth by 1.0 or 2.0 percent and you guys in your negotiations, which are all going to be over in two months, do the same." Thus, you slow down your wage and price increases by 2.0 percent. Now that is a self-fulfilling prophecy. It is something that you can actually carry out. Compare that with our current situation. The Federal Reserve wants to slow down spending growth, by 2.0 percent for example. Does it have a line of labor union leaders standing out on the front lawn of the Federal Reserve Building waiting to do the bidding of Paul Volcker? No, and for a good reason. The union leader, whose union's contract is just about to be renegotiated, realizes that, because of this three-year staggered system, about 95 percent of the cost of living of his workers has already been determined by the wage increases that have been settled in other union contracts in 1980 and '81. However, I do think that market forces such as recession and unemployment have a greater influence on wage inflation than some people believe. But you can see the difference; you can see why that union leader's behavior is determined by the three-year system of contracts and not by macroeconomic policies. I think the Japanese have just as much to teach us about macroeconomic management and the importance of labor market institutions as they have to teach us about exports and quality control.

**The recession route, I would like to submit, is simply too painful a remedy.**

How would I judge Reaganomics, in light of this vast amount of macroeconomic knowledge? All we have is the suggestion that the output ratio is important because it helps to predict unemployment. We have a suggestion that money matters in forecasting spending growth and that, if we only know how to explain inflation, we could predict the output ratio by that simple equation that I gave you. I think the Reagan Administration has been correct in its view that to slow down the growth of current dollar spending, the Federal Reserve has to do most of the job. And they have been pretty consistent in supporting what the Federal Reserve has been doing. We know that this slowdown in nominal spending growth that the Administration has endorsed is going to give us some combination of slower inflation, a decline in the output ratio, and rising unemployment, with more of the unemployment adjustment coming at the beginning and more of the slower inflation coming later on. But the Administration did nothing at all about the speed of adjustment—about the sluggish adjustment process in the short-run. So they endorsed, by supporting the Federal Reserve's action, an increase in unemployment during the period of adjustment. How much unemployment goes up is out of our hands. It depends

**To put it simply, if you try to slow down spending growth and inflation reacts sluggishly, then the output ratio is going to fall and unemployment is going to rise.**

on the Federal Reserve's management in hitting targets.

In my opinion, Chairman Volcker and the Federal Reserve were absolutely irresponsible in the past year in their management of the money supply. In the four quarters ending in the second quarter of 1981, last spring, the growth of M1 was 9.5 percent. That is almost a post-war record. They then became scared that they had let things get out of control, and they suddenly pulled on the brakes. This action explains the very high interest rates this summer; they overdid in the opposite direction. The money supply became stuck on zero growth from April to November.

I want to remind, by way of an anecdote, about the last time that happened. I teach a graduate monetary theory class at Northwestern, and I remember that, in the fall of 1974, I came in to class every Monday morning and wrote a number up on the left-hand side of the blackboard. The number was always 281. That number was the value of M1 for the week. That whole fall of 1974 it was always the same number almost to the decimal point: 280, 282, 281. I did the same thing this fall, and the number remained at about 431 week after week. With this sort of instability in the growth rate of money in 1981, shifting from "go" to full "stop" in those two classroom periods, it is no wonder that our economy has been put through the kind of instability that we are now witnessing.

The Administration won support from the public and from Congress for its economic program by making a fraudulent promise that the output ratio would increase when all the arithmetic and all the history that we have seen suggest that the output ratio had to fall during the period of adjustment to slow nominal GNP growth. There is just no basis from past history for thinking that the growth in our output trend can be speeded up or slowed down as markedly as was forecast, and there are certainly no grounds at all for thinking that the output ratio will rise when nominal GNP is falling. There is only one way that could happen, and that would be with negative shock inflation. For example, this could occur if we got a bonus out of falling oil prices or an explosion of productivity. Those developments are conceivable, and it might be that they would happen. In that case, the arithmetic might work out. But on any kind of plausible extrapolation from history, it is not likely to work out. The Administration did make matters worse for itself by proposing a fiscal program (and I do not think that this was generally understood at the beginning) which locked in legislative tax cuts without locking in the expenditure cuts that were necessary to go with it. I think that a number of people have suggested that the tax cuts should have been held out as a bribe for the expenditure cuts. And we are now seeing that this whole Milton Friedman idea—i.e., the best way to hold spending down is to cut taxes first—does not work that simply. There is a lot of legislative resistance to bringing down spending, and you may wind up with very large deficits as the consequence.

**The Administration won support from the public and from Congress for its economic program by making a fraudulent promise that the output ratio would increase, when all the arithmetic and all the history that we have seen suggest that the output ratio had to fall during the period of adjustment to slow nominal GNP growth.**

Let us put all these rules into action. I want to give you a few numbers to fill in these simple equations. Given the poor results of expensive forecasting models, I think the back-of-the-envelope, simple-minded approach has certain advantages. If you look back into the last decade, year in and year out, a pretty good rule is that this concept I call excessive nominal spending growth—the excess of nominal GNP spending growth over growth in our real capacity—tends to be equal to plus or minus 1.0 percent to the actual growth in M1. We had growth rates of M1 of about 8.0 percent during most of the Carter period. And we had excessive spending growth of about 9.0 percent. Inflation reached 9.0 percent as measured by the GNP deflater toward the end of that period and then, because of the slow adjustment, continued on into the beginning of 1981.

The Federal Reserve does have a stated set of rules—monetary targets—and one of the best ways we can figure out which way nominal spending growth is heading is just to assume the Federal Reserve hits the mid-range of its targets. But it is not quite that simple because, as we know, when the economy is weak the Federal Reserve has the old-fashioned habit of trying to stabilize interest rates, and money growth always falls below the targets in a period when the economy is weak. It usually speeds up over and above the targets when the economy is strong. So we know they will not hit the targets exactly, but let us make a guess that M1 grows at 5.0 percent on average over the period between the second quarter of 1981 and the fourth quarter of 1982. All of these figures are going to be average annual growth rates between the second quarter of 1981 and the fourth quarter of 1982. I want to figure out where the economy is going to be a year from now.

Let us try to look over the current valley and figure out if there is a very gently rising hill over there on the other side. Let us try to figure out how tall it is going to be. I would think that adjusted nominal GNP growth would be around 6.0 percent over the period between mid 1981 and late 1982. Given this thought, what matters is the rate of inflation as measured by the GNP deflater. This figure peaked out at 9.5 percent early in 1981. I think there is going to be a marked slowdown, more than a lot of people predict, for four reasons.

First of all, the recession is putting downward pressure on commodities, on everything from plywood to lead. *The Wall Street Journal* recently talked about the disaster in lead prices because no one is buying auto batteries because no one is buying automobiles. This is just an example of the way in which the weakness of the economy does immediately get into some prices. After all, we did admit that about a quarter, maybe even a

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third, of the slowdown in spending growth is going to come out as slower inflation right away. And that is one of the reasons commodity prices do help out a lot. It is not only the change in spending growth that is important. It is also the low level of activity now that is pulling down prices, so even if we start to recover it will be from a low level. We are still going to be down compared to our 100.0 percent output ratio, and this means that I do not foresee a big upsurge in commodity prices in the first year or two of the recovery. There are precedents for this if we look back to 1976 and 1977.

The second reason for being optimistic is that I think we are continuing to benefit from the appreciation of the dollar, which was a direct consequence of slower monetary growth. The dollar has fallen since last August, but not nearly back to the levels of a year ago. Thus, year over year, there is substantial pressure on domestic producers to hold prices down coming from foreign competition.

A third factor: wage rates. Despite this three-year contract system, there is more flexibility in our wage change system than most people think. If you look at the publications of the Bureau of Labor Statistics a year ago, year-over-year wage changes measured by the adjusted hourly earnings index were running at 10 percent. In the last six months, the index is already down to 7.0 percent and that is really quite a contradiction to those people, particularly those at the Brookings Institution, who think that wages are incapable of adjusting at all. We have read more and more about reopening wage settlements and of lots of pressure on the unions for 1982. I think that this downward pressure on wages will continue and that makes me optimistic. If we look at history, we can see that inflation can continue to slow down in a weak economy even when the recovery proceeds. It is a distinction again between the rate of growth and the level. You may not be able to believe this, but in the first half of 1976, when real GNP was growing very rapidly and the recovery was in its first stage, the rate of inflation was only 4.5 percent. Part of that was due to the temporary suspension of oil price increases, part was due to the behavior of the dollar, but part was also due to the weak economy. I would predict that from our peak of 9.5 percent inflation, we will be down during much of 1982 to the range of 6.0 to 7.0 percent in the GNP deflater.

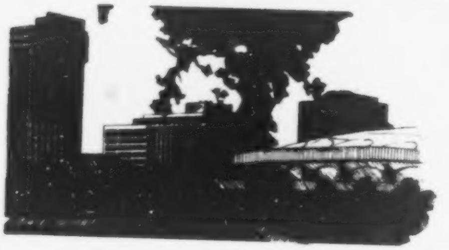
But this decline in the inflation rate does suggest a problem. If we have excess spending growth of about 6.0 percent over the six quarters I mentioned, ending in the 1982 fourth quarter, inflation may wind up at 6.0 percent a year from now, but, over the meantime, over the six quarters taken as a whole, it is going to average at least 7.5 percent. Then you have the simple arithmetic: take excess spending growth of 6, subtract inflation of 7.5 and you get − 1.5 for the output ratio. What does that calculation actually mean? If the trend in output is 2.5 percent, and the ratio of the actual growth to this trend falls by 1.5, that means that real GNP can only grow by 1.0 percent from the second quarter of 1981 to the fourth quarter of 1982. This would suggest a real GNP in the fourth quarter of 1982 of about 1523-1525 billion dollars. By then, our natural output, chugging along at 2.5 percent, will have gone to 1631. In turn, that means the output ratio would have fallen to 93.5, which is just about the lowest of the whole post-war era, and just about equal to the worst period in early 1975. One effect will be that unemployment, even though it may go higher in the meantime, is likely to be 8.5 percent around the time of the congressional elections.

As I said, I am not going to predict exactly how far the economy is going to drop before the mild recovery I predict in the long term. To do so would violate the rule against quarter-to-quarter forecasting. But remember, we had a very sharp recession in early 1975 because there was a lot of inventory overstocking and my fourth reason for mild optimism is that we do not have that kind of massive overstocking of inventories at the moment. I do not see any reason why this present downturn should be unusually harsh, or fall that much outside of the pattern of most post-war periods. But we do have a different kind of monetary policy, and it is going to make the recovery slower. My calculations guarantee a slow, protracted recovery which is why I speak of a little hillside across the valley and not a giant mountain.

Our current economic malaise is the consequence of our struggle to get rid of inflation. Part of this inflation, particularly in the late 1960s and early 1970s, was the direct result of an excess expansion of the output ratio. The output ratio was allowed to get too high—up to 104 or 105 percent in the late '60s and again in 1973—and unemployment was allowed to be pulled too far below 6.0 percent, which is consistent with constant inflation. In a sense, we have to pay penance for the sins of the past. It is tough on businessmen, electric utilities, on all sorts of firms who, believing that those days could last forever, constructed large plants and bought a lot of equipment which the economy currently does not need. Now part of the inflation, which we are trying to get rid of, has a shock component. Higher oil prices partly got into wage changes because of the partial cost-of-living escalators that some of our workers have. There is just no way to get rid of that without an unpleasant period of unemployment, unless—miracle of miracles—the price of oil was to fall back to $3.00 a barrel. Thus, we really do have to make a tough choice. Either we have to learn to live with this extra inflation that has become built into our economy, or we have to suffer a low ouput ratio for a substantial period of time to get rid of the inflation.

Of course, that choice is not really ours. It has already been made by Chairman Volcker and the Federal Reserve system. But I do question whether it is the right choice. Most of the costs of inflation—and there is a long list of them—are correctable, fairly painlessly, by financial deregulation and by the complete revamping of our tax system; that is, to tax only real interest returns, to make only real interest expenses deductible, and to tax only real capital gains. As long as we have the inefficient, staggered three-year contracts, as opposed to one-year simultaneous contracts such as in Japan, the recession route, I would like to submit, is simply too painful a remedy. We are in the rather unfortunate position of putting our economy through open-heart surgery for a patient suffering from a toothache.

# The Industrial Revenue Bond User: Giant Corporations or Small Business? The Wichita Experience



**Murray S. Levin**
**Kent L. Wooten**

**Murray Levin is an Assistant Professor, University of Kansas, School of Business. He received his M.B.A. from the University of Wisconsin in 1973, his J.D. from the University of Kansas in 1977. Mr. Wooten is a graduate student in the University of Kansas School of Business.**

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## Introduction

In the past year, the rates at which money can be borrowed have reached record highs and continue to maintain historically high averages. Virtually everyone has encountered difficulty in borrowing. Ths situation has been particularly troublesome for the small, growth-oriented business. One potential saving force has been industrial revenue bond (IRB) financing. Through IRBs, the small business can possibly access money for expansion at fixed- and below-market interest rates. Yet the future of federally tax-exempt IRB's is uncertain. Vocal opponents of the IRB tax exemption have claimed that most of the IRB benefits accrue to giant corporations, which are the least needy and least deserving recipients of this federal subsidy.[1]

The Federal tax law that facilitates the IRB is targeted for change. Critics of the present law, however, are not in agreement about the nature of desired change. Extremists reject the whole concept of private use of publicly raised funds. They would completely abolish tax exemption for private enterprise IRBs. Others who advocate change are simply dissatisfied with particulars of the present law. This group ranges from those who wish to place further limits on IRB use to those who wish to relax present restrictions and, thereby, expand IRB use.

The principal purpose of IRBs is to stimulate economic growth and new employment opportunities. Whether IRBs actually further this public purpose has been the subject of prolonged debate. Because it is impossible to structure a controlled experiment to test the success at meeting this objective, this debate is beyond resolve. One sub-element of the debate, however, is testable. A number of the IRB critics assert that IRBs are not being used by the small, growth-oriented businesses that form the backbone of a healthy, growing economy. Instead, they believe that large corporations are taking the fullest advantage of this inexpensive financing opportunity, further disadvantaging the small competitor. Many of these critics would probably not oppose IRBs if smaller businesses actually derived substantial direct benefit. Since there is no federal requirement that the issuing process include a public hearing or that the issuer report details of an issue, there is not much assembled public information about the size of IRB users. Nonetheless, data can be gathered to objectively measure the size of the businesses directly benefiting from IRBs. It was the object of this study to collect and analyze information about IRBs issued by an active issuer and to assess the degree of truth in the allegation that IRBs are serving principally to benefit large corporations.

## The Nature of IRBs

IRBs are negotiable securities issued by communities (or development corporations in some states) to raise capital for use by the private sector. Depending on the size of the issue, costs involved, and marketability of the bonds, they will be issued either at public auction or through private direct placement. The proceeds of the bond sale are applied to the benefit of a private business or individual for the purpose of acquiring, constructing, reconstructing, or improving land or depreciable property. Three parties are involved in IRB issues: a state appointed public agency, governmental entity, or issuing authority that issues the bonds; the bondholder whose investment dollars actually supply the necessary capital; and the bond user which benefits from the bond proceeds.

The issuing party normally serves only as a conduit endorsing the bond sale to permit a tax-exempt status and is not obligated on the bonds. The IRBs are issued as revenue bonds, as distinguished from general obligation bonds. With a general obligation bond, the issuer unconditionally agrees to pay the obligation from the general revenues collected through *ad valorem* taxes levied upon all taxable property within its jurisdiction and other sources of governmental revenue.[2] Thus, the general obligation bond is backed by the full faith and credit of

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the issuing governmental body. In contrast, a revenue bond is paid from revenues attributable to specific facilities, typically the property acquired or improved by use of the bond proceeds, and these facilities also serve as collateral to secure the bond obligation.[3]

The bondholder receives a return on investment in the form of interest payments. The interest rate that the bondholder demands is lower than market rates because the interest is exempt from federal income tax by virtue of section 103(b) of the Internal Revenue Code. The interest payments may also be exempt from state and local income taxes.[4] Prior to 1968, the interest on all obligations of states and their political subdivisions was exempt from federal income tax. Then, the applicable section of the tax code was radically amended to remove tax exempt status from all but statutorily enumerated categories of IRBs. Therefore, today, IRBs are tax exempt only if so provided in Internal Revenue Code section 103(b). Three separate paragraphs describe new issue IRBs that are tax exempt. I.R.C. section 103(b)(4) exempts those issues whose proceeds are substantially to be used to provide certain low income projects for residential rental property; facilities for sports, convention, or trade shows; airports, docks, wharves, mass commuting, parking, sewage, or solid waste disposal facilities; facilities for the local furnishing of electricity or gas; air or water pollution control facilities; certain facilities for the furnishing of water to the general public; qualified hydroelectric generating facilities; or qualified mass commuting vehicles. Section 103(b)(5) exempts issues whose proceeds are substantially to be used for the acquisition or development of land as a site for an industrial park. Section 103(b)(6) provides for a special exemption for certain "small issues." This provision was intended to benefit the small firm by making available lower-cost financing for a variety of projects of limited size. If the face amount of the issue is less than one million dollars, the IRB interest paid to the bondholder is not taxed. Under the original small issue exemption, the issuer could elect to substitute a five million dollar limit for the one million dollar limit, in which event the bond user was restricted to a capital spending program of five million dollars at any one location over a period of six years (three years before and three years after the date of issue). In 1979, Congress increased the five million dollar limit to ten million dollars. If these limits are exceeded, the bond interest becomes subject to taxation.

The bond user benefits directly from the use of the proceeds and may be liable on the debt obligation. Sometimes the transaction is structured as an installment sale. If the user fails to make the payment, the bondholder can foreclose. Usually, the transaction takes the form of a net lease. As such, repayment of the bonds is structured in the form of rent paid by the user. The rent must cover the principal and interest of the bond as amortized over the life of the lease. At the expiration of the lease, the user-lessee typically has an option to purchase the facilities for a nominal price. Since the issuing authority has no liability for repayment of the bonds, the bondholder will be concerned about the credit-worthiness of the user.

To the bond user, obviously the IRB is an extremely attractive finance medium because of its below-market interest rate. Rates for IRBs can be from two to four points below rates of alternative forms of financing. The lower interest rate is possible because bondholders, who receive interest payments that are tax-exempt, require a lower rate of return than on non-tax-exempt investments. The resulting savings to the bond user can be substantial. For example, a loan of one million dollars for a 20-year period acquired through conventional financing at a fixed amortized rate of 15 percent would cost $433,000 more than financing through IRB's at a rate of 12.5 percent.

IRB financing offers other advantages to the user besides low interest rates. There may be substantial tax benefits. In some situations, the user enjoys exemptions from certain state and local sales and property taxes associated with the project.[5] Also, because the IRB lease is structured as a capital financing lease, the user-lessee is entitled to investment tax credits, depreciation deductions, and certain other expensable deductions. IRB financing is attractive in other respects as well. It can provide financing of all "hard" and some "soft" costs incurred in the financial expansion. The duration of the bonds, repayment schedule, and other terms of the sale of lease are somewhat flexible items that may be tailored to fit the needs of the bond user. Furthermore, the IRB sale does not have to be registered with the Securities and Exchange Commission. In addition, obtaining IRB money is usually neither complicated, excessively time consuming, nor expensive.

## The Growth of IRBs

IRBs were first issued in 1936 in Mississippi in an effort to attract new industry into depressed economic areas. Afterwards, until the early 1960s, financing through IRBs was fairly rare and, for the most part, localized in the Southern states.[6] Use of IRBs for the development of quasi-public projects such as convention centers, airports, sports complexes, and parking facilities received early acceptance. Public involvement in the financing of such ventures was favored because of the obvious public benefit. Also, traditionally favored was IRB financing of the construction of new manufacturing facilities. Such projects were expected to create new jobs for the unemployed and bolster the economic growth of the community, ultimately expanding the tax base and improving the public welfare.[7]

During the 1960s, IRB use grew rapidly as an increasing number of states enacted enabling legislation to permit local governmental units to become issuers.[8] Not only did the *use* of IRBs grow during this period, but the *size* of issues grew as well. These numerous issues reflected a much more liberalized approach to promoting public benefit. Many governmental units, which had previously used long-term bonds solely to pay for capital improvements, began to sell bonds to finance a variety of private enterprise projects. With the wide proliferation of bond use, observers began to question whether the public was becoming a benefactor of private wealth rather than a beneficiary of private development. Much of the activity was viewed

**Based on the number of bond issues, the Wichita experience most definitely does not bear out the claim that giant corporations are the predominant users of IRBs.**

as clearly abusive. Large, healthy corporations, which were clearly capable of raising capital in traditional ways, were soaking up these publicly raised funds. There were even problems among the ranks of the smaller users that were widely perceived as the more appropriate direct beneficiaries of IRB money. The bond proceeds were being used to finance acquisitions of existing buildings that seemingly offered little public economic benefit and to develop highly controversial projects such as bars and pornography establishments. The standard of public benefit was being severely tested. Furthermore, there was concern over the arguable diminution in federal income taxes due to the tremendous amount of tax-exempt financing. The increasing use and abuse of IRBs prompted Congress in 1968 to try to limit the size and volume of IRBs issued by restricting the federal tax-exempt status as discussed in the preceding section of this article.

During the last several years, there has been renewed concern about another wave of enormous IRB growth and experimentation. The Congressional Budget Office (CBO) estimates that "small issue" IRB sales increased, for the nation as a whole, from \$1.3 billion in 1975 to a record high of \$8.4 billion in 1980. The figure for 1979 doubled that for 1978. The trend is expected to continue. The CBO projects between \$10.1 and \$12.8 billion of new "small issue" IRB money in 1982 and between \$13.4 and \$35.0 billion by 1985.[9]

Opponents question the logic of tax-exempt IRB financing for several reasons. They claim that because the bonds are tax exempt, the government is, in effect, subsidizing private businesses, thereby eliminating taxes which could have been immediately received by federal, state and/or local governments, counteracting the progressivity of the tax structure (since high income bondholders benefit the most from tax-free interest) and reducing competition between businesses by giving unfair advantage to IRB users. Critics also contend that IRB financing has lost its incentive to attract new businesses into a community since virtually all competing locales now offer IRB financing.[10] The charge is continually made that IRB funds are not reaching the small businesses which are the most deserving of such financial assistance. It is this last criticism to which this study is directed. Much publicity attends the fact that highly visible large companies such as McDonald's, K-Mart, and Pizza Hut, which can finance projects without the aid of local governments, are frequent users of IRB money. Indeed, they have been known to insist that IRB money be made available; if not, they will not locate in a given community.

Reacting to these situations, consumer advocate Ralph Nader has characterized IRBs as a form of "corporate extortion." He claims that most of the IRB benefits are going to giant corporations.[11] Even the National League of Cities has reported that "IRB funds are still not getting to those smaller firms that really need them."[12] Thus, it is asserted that this government subsidized, low-cost money is being used in ways that impede, rather than enhance, the ability of small businesses to compete, grow, and contribute to the general economic wellbeing.

Responding to this rising opposition to IRBs, the Congressional Oversight Subcommittee of the House Ways and Means Committee held hearings during the Summer of 1981 and submitted a bill which proposes to place new restrictions on tax-exempt IRBs and to impose new burdens on the issuer. The subcommittee hearings centered primarily around two topics: "the loss of federal tax revenues . . . and the possible abuse of IRBs as an unnecessary federal subsidy for firms which could afford to borrow in the taxable market."[13]

The bill (H.R. 4420), which was introduced by Congressman Rangel (D-NY) on September 9, 1981, proposes to amend the IRB provisions in the federal tax code regarding the "small issue" exemption in several ways. First, it would impose reporting requirements. Each state would have to annually submit certain prescribed information regarding its new IRB issues. Second, it would impose a public hearing requirement. The issuer would be required to conduct a public hearing prior to approving each issue and make specific findings that the issue (i) will not create unjustified competitive disadvantage to existing businesses in the area, (ii) will stimulate the local economy, (iii) will result in the creation or retention of a significant number of jobs, and (iv) will finance a project that would not have been undertaken without tax-exempt financing. Third, *commercial* (as distinguished from industrial) IRB-financed projects would be exempt only if located in economically distressed areas. Fourth, IRB proceeds could not be used to relocate activities from one state to another. Fifth, proceeds could not be used to purchase land to be used primarily for farming purposes. Sixth, the "small issue" exemption would come to an end after December 31, 1983. Lastly, the Treasury Department would conduct a study on the topic of "small issue" IRBs to be completed by mid-year 1983, at which time, presumably, Congress would decide whether to reauthorize the exemption.

## The Study: Wichita, Kansas

It was this study's objective to investigate whether large corporations have been the chief direct beneficiaries of IRBs, as has been asserted by critics. Generally, issuers have neither reported nor endeavored to assemble data useful for making such an assessment. Because this information was not readily available, the choice was made to assess the records of one sizable issuer. Wichita, Kansas was chosen for the following reasons:

(1) The total IRB dollars issued by Wichita far exceeds other issuers in Kansas,[14] and, according to the Wichita Industrial Development Office (IDO), Wichita has issued more IRB dollars than any other municipality in the nation (over \$480 million as of July, 1981).

(2) Wichita has a steady history of actively issuing IRBs and recording detailed information on its issues.

(3) The Wichita IDO agreed to furnish information from their files.

The study is restricted to IRBs issued by Wichita since January 1, 1975.[15] Critical to the quantification of this study is the definition of a small business. Because there are many different measures of business size and because different standards are often applied to different types of business and by different evaluators,[16] any one set of criteria would be lacking, and cut-off points would necessarily be somewhat arbitrary. The decision was made to use two measures of size and a few gradations within each measure. Each user was evaluated on the basis of the number of employees and the annual gross revenue (AGR) at the time the bonds were issued.

Under the first measure, number of employees, the users were classified in one of three categories—50 or fewer, 51 to 250, and greater than 250. Regarding the second measure, AGR, the users were classified in one of four categories—less than $1 million, between $1 million and $50 million, between $50 million and $100 million, and greater than $100 million. When the information on a user was not available in the IDO files, IDO performed a follow-up inquiry and analysis. Admittedly, room for some error exists because public information was not always available to meet the study's needs, but there is cause to be reasonably confident about the accuracy of the figures for the following reasons. The IDO expressed that it had, for some time, wanted to compile this same information for its own use; therefore, it was willing to spend considerable time and effort in meeting the requests for these figures and believed the information to be accurate. When users were notable enough for inclusion in reports published by financial consulting firms such as Standard and Poor, Moody, and Dun and Bradstreet, the IDO figures were verified. This process reflected consistent IDO assessments.

The results of the study are reported in Tables 1 and 2. Based on the number of bond issues, the Wichita experience most definitely does not bear out the claim that giant corporations are the predominant users of IRBs. Over one half of the issues were used for the benefit of businesses with fifty or fewer employees (Table 1). Over three fourths of the issues were used for the benefit of businesses with 250 or fewer employees. By virtually all recognized definitions of business size, a concern employing only 250 persons would be categorized as a small business. For example, in the Nader criticism of large corporation use of IRBs, 5,000 employees was the dividing line.

Again, based on number of bond issues, over one fourth of the issues went to users with an AGR of less than one million dollars (Table 2). Over three fourths had an AGR of $50 million or less. Using $50 million as a dividing line between large and small business would for most purposes be a conservative standard. For example, the figure referred to by Nader was $1 billion.

Based on the dollars issued, however, the largest businesses do predominate. Eighty-one percent of the Wichita IRB proceeds went to employers of more than 250 (Table 1), and 60 percent went to businesses with an AGR exceeding $100 million (Table 2). In weighing the significance of this last finding, however, one should consider a qualifying observation. The study sample included four exceptionally large issues, all going to businesses with more than 250 employees. These issues were $113 million and $87 million to the Boeing Military Airplane Company in 1979 and 1980, respectively, for the purchase of land and equipment and construction of a plant; $48 million to Wesley Medical Center in 1977 for expansion of its hospital facilities; and $35 million to St. Francis Hospital and School of Nursing in 1977 for construction of medical facilities. If these four issues are excluded from the calculations, businesses with 250 or fewer employees and with an AGR of $50 million or less received 65 and 62 percent, respectively, of the remaining IRB dollars issued. Consequently, with this adjustment, the small businesses reappear as major users of IRB money. Removal of these four large issues from consideration in this study may be justified on the basis of their tax status. Since these issues exceed five million dollars, they most certainly do not yield tax-exempt interest by virtue of the "small issue" exemption. They are, therefore, either tax exempt as one of the less controversial, quasi-public projects specified in I.R.C. section 103(b)(4) and (5), or because of the section 501(c)(3) nonprofit status of the user, or they are simply offerings that do not qualify for federal tax exemption.[17] As such, their inclusion would distort the facts as they pertain to the current IRB debate, which is largely directed at the "small issue" exemption.

## Conclusions

The Wichita figures present a mixed picture. Large corporations are definitely not the only or chief benefi-

### Table 1
### Industrial Revenue Bonds Wichita, Kansas (1/75-7/81)
### Size of Bond User Defined by Number of Employees

| | no. < 50 | 50 < no. < 250 | no. > 250 |
|---|---|---|---|
| No. of Issues (%) | 38 (58%) | 13 (20%) | 14 (22%) |
| Dollar Proceeds (%) (In Millions) | $58.715 (15%) | $16.440 (4%) | $323.914 (81%) |

### Table 2
### Industrial Revenue Bonds Wichita, Kansas (1/75-7/81)
### Size of Bond User Defined by Annual Gross Revenue (AGR)

| | AGR < $1MM | $1MM < AGR < $50MM | $50MM < AGR < $100MM | AGR > $100MM |
|---|---|---|---|---|
| No. of Issues (%) | 17 (26%) | 37 (57%) | 1 (2%) | 10 (15%) |
| Dollar Proceeds (%) (In Millions) | $26.675 (7%) | $128.644 (32%) | $3,500 (1%) | $240.250 (60%) |

**Based on the dollars issued, however, the largest businesses do predominate.**

ciaries of IRBs. Many more small firms than large have been users of Wichita IRBs. However, a small number of issues that have benefited a few large entities have involved the greater part of the total IRB dollars. Thus, while small businesses are active users of IRB money, the direct dollar benefit to small businesses has been relatively small. Nevertheless, when analyzing the most controversial aspects of the debate over federal tax exemption for IRBs, it may be appropriate to alter the figures by eliminating certain very large issues that do not qualify for the "small issue" exemption. If this is done, the small businesses then predominate in terms of relevant IRB dollars. In addition, one should not discount the fact that in the last six and one-half years Wichita issued more than sixty IRBs, making over $70 million available for the use of small businesses.

Of course, the Wichita experience may not be representative of that of most IRB issuers. Wichita city officials have described their approach as "more conservative than that which we would find in other cities throughout the United States."[18] They claim to have taken a skeptical view of the use of IRB's for commercial (as contrasted with industrial) projects, and, just last year, the city formally adopted policies "specifically discourag[ing] ... uses involving retail, housing, commercial, general office, hotels, motels, retirement centers, parking garages and pure warehousing."[19]

Based on the recent experience of one major issuer, this study endeavored to assess the claim that large businesses were the chief direct beneficiaries of IRBs. The Wichita experience suggests otherwise. Even though some reports indicate that a number of large businesses are using IRBs, one should remember that not all IRBs are federally tax exempt and that tax-exempt IRBs are designed to achieve a variety of purposes, some of which—such as quasi-public projects—can be well served by large businesses. Before condemning the process because IRB money is being used by a large business, one ought to take the further step of examining the tax status of the issue and the nature of the specific use. IRB critics have not taken care to do so.

This study invites a closer look at the IRB experience. One very likely change in the federal law pertaining to IRBs will be to impose detailed requirements for hearings and reporting of findings and facts regarding new IRB issues. This process, though costly, will better enable assessment of the worth of the IRB.

## Footnotes

1. See, e.g., Subcommittee on Oversight of the Committee House, Ways and Means, U.S. House of Representatives, *Background Information for Hearings on Tax-Exempt "Small Issue" Industrial Revenue Bonds*, April 7, 1981, at p. 6; L. Brooks, "The Industrial Revenue Bond," *National League of Cities Weekly*, March 23, 1981; L. Litvak, "Questions Arise as the Popularity of Bonds Grow," *National League of Cities Weekly*, March 23, 1981, at p. 6; "Tax-Exempt Bonds for Industry Called 'Extortion' by Nader," *Wall Street Journal*, August 2, 1979 at p. 2; W.M. Russell, "The Importance of Assessing Business Transactions for their Impact Upon the Tax-Exempt Status of Industrial Development Bonds," 30 *Syracuse Law Review* 713 (1979); Note, "The Limited Tax-Exempt Status of Industrial Revenue Bonds Under Subsection 103(c) of the Internal Revenue Code," 85 *Harvard Law Review* 1649 at 1650 (1972).

2. The Kansas City, Kansas issue of $4.8 million in the Spring of 1980 that provided general maintenance and construction funds is an example of a general obligation bond.

3. The Kansas Turnpike Authority financed the construction of the Kansas Turnpike through the sale of revenue bonds. The tolls collected are pledged towards the retirement of the bonds and the interest, and the bonds create a mortgage and security interest in the turnpike and facilities.

4. Interest on IRBs issued by Kansas municipalities is exempt from all state taxes, except inheritance taxes. K.S.A. Section 12-1746. Exemption from local taxes is at the discretion of each locality.

5. See K.S.A. section 79-3606 regarding sales tax exemptions for certain property and services for use in projects of political subdivision of the state. K.S.A. § 79-201A exempts from all Kansas property or *ad valorem* taxes for a period of ten years all property constructed or purchased from proceeds of IRBs under K.S.A. section 12-1740 et seq.

6. Alabama, Arkansas, Kentucky, and Mississippi accounted for approximately 80 percent of IRB financing from 1956 through 1965. Note, "The Limited Tax-Exempt Status of Industrial Revenue Bonds Under Subsection 103(c) of the Internal Revenue Code," 85 *Harvard Law Review* 1649 at 1651 (1972).

7. For "small issues," the decision of what constitutes a valid public purpose has been left entirely to the local issuing authority. Regarding the other categories of federally tax-exempt issues, all that need be established is a statutorily listed exempt use.

8. Kansaas enacted legislation in 1961 enabling municipalities to issue IRBs [L. 1961, ch. 81, §1], codified as K.S.A. Section 12-1740 et. seq.

9. Congressional Budget Office, *Small Issue Industrial Revenue Bonds*, April 1, 1981.

10. Presently, all but two states—Idaho and Washington—have specifically empowered local governments to issue IRBs.

11. "Tax-Exempt Bonds For Industry Called 'Extortion' by Nader," *Wall Street Journal*, August 2, 1979 at p. 2.

12. L. Litvak, "Questions Arise as the Popularity of Bonds Grow," *National League of Cities Weekly*, March 23, 1981 at p. 6.

13. *Congress Eyes Restriction on Industrial Revenue Bonds*, Legislative Report, April 15, 1981 at p. 1. Subcommittee on Oversight of the Committee House, Ways and Means, U.S. House of Representatives, *Background Information for Hearings on Tax-Exempt 'Small Issue' Industrial Revenue Bonds*, April 7, 1981 at p. 8.

14. According to state reports, the following cities are the largest issuers in Kansas: Wichita: $474,568,500; Kansas City: $138,524,000; Wamego: $111,300,000; Merriam: $90,630,000; Halstead: $69,109,000. Memorandum to special Committee on Assessment and Taxation, regarding Preliminary Analysis of IRB Survey, Kansas Legislative Research Department, page 2, Sept. 22, 1981.

15. Only IRBs actually issued were considered. Letters-of-intent and applications that have been rejected or are pending approval were not included.

16. For example, for a number of years the Small Business Administration (SBA) in determining loan qualifications has used multiple definitions of small business based on industry. For SBA purposes, small businesses have included manufacturers with fewer than 1,500 employees, wholesalers with AGR of less than $22 million, service firms with AGR of less than $8 million, construction firms with AGR of less than $9.5 million, retailers with AGR of less than $7.5 million, and agricultural enterprises with AGR of less than $1 million. A new SBA standard definition of a small business based on a single measurement of size—number of employees—was proposed last year, but has not been formally adopted. The National Chamber of Commerce defines major metropolitan employers as those with more than 250 employees. Others such as Dun and Bradstreet, Standard and Poors, and Fortune magazine have divided the nations businesses on the basis of assets or net worth. In 1980 President Carter proposed that IRBs be limited to small industrial businesses with assets of less than $10 million. *Congress Eyes Restrictions on Industrial Revenue Bonds*, Legislative Report, April 15, 1981 at p. 5.

17. According to the IDO, the Boeing issues were not exempt from federal taxes, and the medical users qualified as nonprofit organizations.

18. *Industrial Revenue Bonds and Their Use by the City of Wichita, Kansas*, a report of the Wichita Department of Housing & Economic Development, July 1981.

19. *Id.* at Exhibit I.

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# Economic Conditions
## The National Review

### The Current Condition

Those predicting a quick end to the recession are having to revise their forecasts as bad economic news continues to roll in during the first quarter of 1982. The index of leading economic indicators declined 0.6 percent in January after 0.3 percent declines in both December and November. January's decrease marked the ninth consecutive decline in this barometer of future economic activities. Most worrisome for analysts and businessmen alike has been persistently high levels of interest rates. After falling during the last quarter of 1981, rates, in general, turned upward again in the first months of 1982. The result was a sharp downturn in both stock and bond prices. There is general agreement that the level of recovery in subsequent months will be closely tied to the cost and availability of credit.

The upsurge in interest rates in the first two months of 1982 seems, principally, to have been caused by two factors: (1) an unexpected jump in money supply growth to an annual rate of 12.8 percent from mid-December to mid-February sparked fears that the inflation-conscious Federal Reserve Board would react to the news with a new clamp down on credit, and (2) the record-high projected deficits contained in the Reagan budgetary proposals and the subsequent unprecedented levels of government debt financing activity raised concerns that private borrowing would be crowded out and credit costs raised.

These factors impact upon creditors' expectations of future interest rates. They do not *per se,* however, reflect fundamental changes in the present structure of the credit market. As such, it seems reasonable that the response to these phenomena will be transitory and that interest rates will, after a period of adjustment, level off. This forecast is strengthened by the fact that interest rate levels did recede during the last two weeks of February and into early March.

### Production

On the production side of the economy, the weakness which was previously concentrated in a handful of interest rate-sensitive sectors has now spread more generally throughout the economy. Perhaps the numbers best tell the story:

- Industrial production fell 3.0 percent in January, the sixth consecutive monthly decline. Production was off 2.1 percent in both November and December from previous monthly levels.
- The factory capacity utilization rate fell to 70.4 percent in January, the lowest level reported since the 1973-1975 recession. The rate recovered only slightly in February to 71.8 percent.
- Labor productivity (output per hour of labor input) fell 1.8 percent in the third quarter of 1981 and a whopping 7.6 percent during the fourth quarter.

Even as the effects of the general downturn have become more widespread, the interest rate-sensitive sectors continue to be hardest hit. The numbers are again quite revealing:

**Autos:** Production for 1981 was at the lowest level in 20 years. January output, 39 percent below year-earlier levels, was the lowest monthly figure in 35 years. In addition to the lack of spendable income for consumers and high borrowing costs, January's declines were blamed, in part, upon severe weather and uncertainty over labor negotiations between the auto makers and the United Auto Workers. Improvement in February was not forthcoming as sales were down 15.9 percent over year ago levels in spite of substantial rebate offers from the auto makers.

**Housing:** Total 1981 sales were down 20 percent from the 1980 level and represented the lowest total since 1963 when such records were first kept. Furthermore, January 1981 sales were the second lowest total ever recorded. Housing starts for 1981 were at a 35-year low. Although housing starts in January were off 44 percent from year-earlier levels—due, at least in part, to severe weather—building permits issued for the month were up, giving some cause for optimism.

**Machine Tools:** Orders were up 38 percent in January over December's depressed levels but still represented a decline of 28 percent from last January's total. Little improvement in the sector is expected as long as the industry continues to operate with substantial excess capacity.

### Employment, Income, and Spending

Unemployment in January took a surprising downturn to 8.5 percent following December's peak level of 8.9 percent. Most analysts attached little significance to the January decline, however, since the actual number of people employed in January declined by 0.4 percent to 99.6 million. The reduction in the unemployment rate was due to a decline in the size of the labor force caused partially by January's severe weather or by workers becoming discouraged. As expected, the rate for February climbed back upward to 8.8 percent with the number of unemployed having increased 1.8 million since July.

Not surprisingly, growth of personal income has also been weak over the past several months. Income rose an anemic 0.2 percent in January following a 0.1 percent decline in December and a 0.6 percent increase in November. This lack of consumers' purchasing power has, in turn, fostered further weaknesses in retail sales which were down 1.1 percent in January and 0.2 percent in December. Durable goods sales have been especially poor—off 3.4 percent in January, for example. It should also be noted that these reported figures are not adjusted for inflation. If such adjustments were made, the declines in sales and income in recent months would be more pronounced.

### Prices

The figures discussed above serve to project a classic recessionary phase. Industrial output is declining, thereby promoting increases in unemployment which, in turn, cause consumer purchasing power to decrease.

In consequence, retail sales weaken. Further, if retail demand is weak, there is no incentive to step up production, and the downtrend in production is reinforced.

Another characteristic of a classic recession currently being observed is a declining rate of increase in price levels. This easing of inflationary pressures has been one of the few pieces of good economic news to be found in the past several months.

The overall rate of increase in the Consumer Price Index for 1981 was 8.9 percent. This figure compares favorably with a 12.4 percent increase for 1980. The largest increase in 1981 was for medical costs which were up 12.5 percent; food prices, on the other hand, rose by only 8.3 percent in 1981. For the first month of 1982, consumer prices rose only 0.3 percent or at an annual rate of 3.6 percent, ignoring compounding.

Favorable trends in consumer prices seem likely to continue through the first several months of the year. This development is evidenced by the recent slow rate of growth in producer prices which generally foreshadow future movements in consumer prices. The Producer Price Index rose only 7.0 percent in 1981, the lowest annual total since 1977. Recent monthly hikes in producer prices have been very modest as well: November, +0.5 percent; December, +0.3 percent; January, +0.4 percent. February witnessed an 0.1 percent decline.

## Outlook

The current outlook is little changed from that reported in the previous issue of this review. Economies inevitably recover from a recession, and the current slump will be no exception. The critical question, however, is when. The best bet remains that the recession will bottom out during the first quarter, but that substantial growth will not take place until the third quarter. This timetable coincides with the phasing in of the second step of the tax-cut package and with the advent of serious campaigning for the November elections.

Real output will decline in the first quarter, but the contraction will likely not be as severe as the 4.7 percent drop in real GNP experienced during the last quarter of 1981. Most projections are for growth to be flat over the second quarter with real growth resuming in the second half of the year at 4.0-5.0 percent annual rate. Employment recovery generally lags behind output recovery in terms of its timing; therefore, unemployment is a likely candidate to top 9.0 percent and remain above the 8.0 percent level throughout 1982.

There is general agreement that inflation levels in 1982 will be lower than the 8.9 percent figure reported in 1981. There is no consensus, however, on the extent of moderation. Some feel that the present pricing pattern is closely tied to the recession and that, when recovery ensues, demand-side pressures will be renewed. Once again, then, the inflation rate will be driven up. However, close examination of price movements in major sectors leads to the conclusion that the present price moderation is due, at least in part, to some fundamental structural changes which are not likely to be reversed quickly.

Some examples that appear to confirm this conclusion are: Conservation and development of alternative energy sources appear to have permanently weakened oil demand, thereby causing falling petroleum prices. Recent labor negotiations in major industrial sectors, such as trucking and auto manufacturing, have resulted in wage freezes which should have a moderating effect on a broad range of industrial prices. Last year's bountiful harvest plus projected record plantings in 1982 should keep food price increases for 1982 within the 6.0 percent range.

Coupling the above factors with the Fed's avowed anti-inflation policy and the previously reported moderaton in producer prices suggests continued moderation in consumer prices—moderation not that closely tied to the recession. Look for an overall inflation rate for 1982 in the range of 5.5 to 6.5 percent.

Analysts also generally agree that the strength of the recovery will be tied to moderations in the level of interest. It is perhaps appropriate then to close this section with a discussion of the future course of interest rates. Two points deserve mention: (1) short-term fluctuations in interest rates are notoriously hard to predict, and (2) interest rates are currently and are likely to remain more volatile than they have been previously. This fact is demonstrated quite clearly in the Table below. It contains calculations of variance over five-year periods for four major interest rate series.

The Table shows that these rates have been becoming increasingly more volatile over time since World War II, but that a marked jump in volatility occurred in the most recent five-year period. One partial explanation for that increase is the volatility of inflation over this period. More importantly, however, the jump is a basic reflection of the Fed's attempt to adhere to a rule for monetary growth which leaves rates free to fluctuate in response to pressures in the credit markets. The best advice is to attach little significance to short-term gyrations in the

### Volatility* of Interest Rates, 1952-1981
### (Using average annual rates)

| Interest Rate | 1952-1956 | 1957-1961 | 1962-1966 | 1967-1971 | 1972-1976 | 1977-1981 |
|---|---|---|---|---|---|---|
| Treasury Bill 3 month | .37 | .44 | .65 | 1.33 | 2.37 | 12.10 |
| Treasury Bill 10 year | .10 | .38 | .44 | .82 | .51 | 5.10 |
| Prime Rate | .08 | .15 | .24 | 1.38 | 4.08 | 23.70 |
| Federal Discount Rate | .18 | .27 | .37 | .96 | 1.42 | 10.20 |

*The numbers listed are measures of variance. They were calculated by the standard equation $\frac{\sum_{t=1}^{n} (X_t - \bar{X})^2}{n-1}$ where $X_t$ = level of interest rate at time period t; $\bar{X}$ = mean number of observations per period. Larger measures of variance indicate greater volatility.

cost of funds and to pay closer attention to long-term fundamentals which will be influencing the credit markets. The following factors are important in this regard:

(1) The Fed's anti-inflation policy, if pursued, will restrict the availability of funds.

(2) The higher the level of the federal deficit, the greater will be demand-side pressure on the credit market.

(3) As inflation moderates, nominal interest rates should decline accordingly.

(4) Economic recovery will increase private sector demands for credit.

At the present time, these fundamentals do not indicate any substantive reason for increases in interest rates over the next few months. Short-term volatility similar to that observed during February is not precluded, however. During the second half of the year, if recovery takes place, the combination of private sector plus public sector demand for credit coupled with a restrictive monetary policy could once again provide the impetus for major increases in interest rates. No doubt, it is fears of this sort that are causing policy makers to scramble for ideas to reduce the projected federal deficit and, thereby, to ease future demands on the credit market.

# The Regional Outlook

Each of the states neighboring Kansas saw their unemployment rates (nonseasonally adjusted) increase over the month of January. Unemployment averaged 6.5 percent in January among Kansas, Missouri, Iowa, Nebraska, Colorado, and Oklahoma. The January rate for Kansas was 4.6 percent, up from 4.0 percent in December, and was the lowest rate among those states mentioned. Missouri suffered the largest increase, Nebraska the smallest. The states with the largest durable goods sectors, Missouri and Iowa, also experienced the greatest increases in unemployment.

Unemployment in the "Show Me" state went from 7.7 percent in December to 10.1 percent in January. The major metropolitan centers in that state—Kansas City and St. Louis—both saw layoffs during January and February in the automobile industry. Iowa witnessed unemployment going from 5.3 percent in December to 6.9 percent in January. In that state, construction and farm equipment manufacturer layoffs contributed to the increase. In the other four states, where durable goods employment is proportionally much less, the unemployment rates grew by about half as much (unemployment rates increased around 15 percent in Nebraska, Colorado, and Kansas; 25 percent in Oklahoma; and around 30 percent in Missouri and Iowa). Like Missouri, Oklahoma and Kansas suffered significant layoffs in the automotive sector. In addition, the aviation industry in Wichita experienced layoffs in January and March. Several mines in Colorado closed in early 1982, and the transportation sector—trucking, railroads, and airlines—in that state also saw several layoffs occur. Only in Nebraska was the unemployment increase described as being of a general nature, i.e., no one or two sectors contributed significantly to the increase.

It should be noted that much of the increase in unemployment rates was due to seasonal factors. For example, retail sales employment fell after the Christmas season, and construction and farm employment fell in several states due, in part, to the harsh winter conditions throughout the Midwest. In Kansas, farm employment fell 7.2 percent in January; total employment dropped 2.8 percent. As spring approaches, the seasonal factors will tend to improve the employment situation in all the states. For example, farm employment will increase in all six states from now on until the harvest, and Colorado and Oklahoma should see fairly sizable gains in construction employment.

The large increases in unemployment in Iowa and Missouri definitely reflect the influence of the current national recession. Orders for new durable goods dropped 1.5 percent nationally in January. The durable goods producing states are feeling the recession most, and all states together are currently waiting for positive seasonal factors to arrive with spring. But it is likely that a sizable portion of the January decline in the employment situation in the Midwest was directly recession related, and a worsening national recession will only counter any locally anticipated improvements.

# The Kansas Economy

The December to January change in unemployment for Kansas was the largest increase for that time period since the early seventies, and, in February, state unemployment reached 5.1 percent—the highest level since January 1976. The increase from January to February was again sizable, making for two consecutive months in which unemployment increased by half a percentage point or more. This increase in unemployment is likely to persist through March and possibly into April. Unquestionably, Kansans have started to feel the effects of the national recession. Unemployment insurance claims increased by nearly 4,000 over the month of January compared to December. As expected, the recession has had a greater effect on the metropolitan areas of the state. With the recession, the aircraft industry has experienced a slowdown, and the Wichita economy has followed that same path. Cessna announced several layoffs in early 1982, and it appears that the private aircraft industry will suffer more than its military counterpart. Orders for military goods have been pushed to a record level by the current Administration. Defense related employment in Wichita is secure, at least, and may actually increase in the coming months. The situation is not nearly so bright in Wyandotte County. Unemployment was 8.0 percent in January due to the struggling auto industry and the numerous related layoffs that have stung the Kansas City economy. Prospects for improvement in the Kansas City employment sector are bleak. One, nearly lone, positive note: G.M. recently announced plans to retool the Fairfax assembly plant. Plans for a new auto assembly plant located in Wyandotte County called for the eventual closing of the Fairfax plant once the new plant was completed. Now the plan calls for Fairfax to be retooled in addition to the construction of a new plant (should that construction ever occur). Hence, the health of the Fairfax operation looks improved. Granted, any retooling will undoubtedly usher in greater use of automation and computerization, thus eliminating many jobs currently held by labor. A new assembly plant (likely to be extremely automated) would probably hire labor technologically displaced by a major Fairfax retooling. Employment gains beyond that may not be too significant.

The current oil glut has had a dampening effect on the oil and gas industry in the state. Given lower oil prices, the marginal stripper wells become less profitable and, thus, subject to being shut down. This development obviously affects the employment security of labor maintaining those wells as well as drilling new wells and the prosperity of those individuals receiving royalties from those wells. Lower gasoline prices throughout the early spring may do a great deal towards removing the glut. Also, given lower gas prices, gasoline-buying Kansans have greater purchasing power which may do more good for the state economy (in terms of increasing economic activity) than the harm of royalty-owning Kansans receiving smaller incomes due to the glut.

Like people nationally, Kansans are saving more money and taking out smaller amounts of loan money. It is difficult to say what this development will do to change the level of economic growth in the state. It may indicate a building of "pent-up demand" which, upon the arrival of cheaper money and/or greater confidence in the economy's health, would add to the strength of a recovery once a recovery got underway.

Several construction projects are scheduled to commence in Kansas starting this spring. Curtis Homes, Inc., will build a one million dollar manufacturing and distribution plant in Wichita starting in 1982. Total Petroleum plans to build a sulphur plant valued at $2.5 million at its Arkansas City refinery, Binney and Smith Crayola will start a six million dollar expansion to their Winfield plant this spring, and the Port Authority has announced plans to begin development of 375 acres of the Fairfax Airport.

Compared to the nation as a whole, Kansas will survive the spring of 1982 with unemployment rates far below the national average (the comparable January figures were 8.8 and 4.6 percent): Yet, it is likely that Kansas will increasingly feel the effects of the current national recession which arrived in late 1981. Following the start of a national recovery (possibly in one or two months), Kansans can anticipate marked improvements in the state economy. Until then, improvements will be few, and a continued slowdown can be expected.

### Table 1

| | Price | | |
|---|---|---|---|
| Crop | Feb. 82 | Feb. 81 | Change (%) |
| Wheat (bu.) | $3.67 | $4.17 | – 12.0% |
| Corn (bu.) | 2.40 | 3.22 | – 25.5 |
| Sorghum (cwt.) | 4.03 | 5.33 | – 25.0 |
| Soybeans (bu.) | 5.96 | 7.50 | – 20.5 |

### Table 2

| | U.S. | | Kansas | |
|---|---|---|---|---|
| Crop | Projected Acreage (millions) | % Change from 81 | Projected Acreage (million) | % Change from 81 |
| Corn | 84.7 | + 1% | 1.49 | + 3% |
| Wheat | 88.0 | – 1 | 14.2 | + 1 |
| Soybeans | 69.5 | + 2 | 1.6 | + 4 |
| Sorghum | 15.7 | – 2 | 4.15 | – 2 |

## Agriculture

Weak worldwide economic conditions and large storage residuals from 1981's record harvests are tending to depress agricultural prices during the first months of 1982. Overall prices received by farmers in February were 7.6 percent below year-earlier levels. Hardest hit have been the major food and feed grains including wheat, corn, sorghum, and soybeans. The magnitude of the average price declines for these important income crops is detailed in Table 1.

Recent price trends has been somewhat more favorable for livestock. In fact, price increases for livestock have helped cause fractional increases in the overall Index of Prices Received by farmers in the first two months of 1982. The Index in February stood at 131 on a 1977 base, compared to a recent low of 126 in December. Beef cattle prices in February were at $55.60/cwt., up $3.60 from December's low but still $3.80 below year-earlier levels. Calves were at $59.50, up 1.70 over the two months but still down more than $11.00 from a year ago. Overall hog prices, which are traditionally unstable, continue to rise. The average February price was $48.20/cwt., up over $9.00 from December and $7.00 from a year earlier.

Prices received by Kansas farmers, of course, closely mirror national price trends. The overall Index of Prices Received in Kansas increased almost 2 percent in the month of February. Substantial price increases were recorded for beef cattle and hogs—beef rising about $5.30/cwt. during the month to $57.50/cwt.

Grain price news was less favorable. Wheat was down $0.16/bu. for the month to $3.76/bu., reflecting poorer prospects for exports; soybeans were off $0.04 to $5.69/bu.; corn was unchanged at $2.54/bu.; and sorghum grain was up $0.14 to $3.89/cwt.

Nationwide, farm net cash income (cash receipts minus total cash expenses) declined in 1981 to $29 billion. It was the second annual decline from 1979's record $36.5 billion. Current projections are for another decline of from one to three billion in 1982. Without a doubt, another decline will exacerbate many farmers' continuing cash-flow crisis. The result will be increasing debt loads for many already highly leveraged farms and, unfortunately, some foreclosures and consolidations. It is worth noting that increased borrowing at the present high commercial interest rates will put farms in an even more precarious position with respect to their cash-flow needs.

Weak farm purchasing power naturally hurts the agribusiness sector in major farm states such as Kansas. Sales of major equipment continue to be very poor and even supplies' sales, such as fertilizer, are beginning to feel the crunch.

No one is expecting major price improvements for grain crops in 1982. Preliminary estimates suggest that 1981's price weaknesses are not causing any major planned reductions for 1982 planting. Projected acreage nationally for corn, beans, wheat, and sorghum are all within 2.0 percent of 1981 acreage. Kansas farmers are expected to plant more beans and corn and less sorghum than in 1981. Details are given below in Table 2.

Actual planting may differ from projections based upon farmer reaction to the recent set-aside proposal. However, odds are that the program was ill-timed and will have little impact on actual output of wheat or corn.

**Table 3**

| Commodity | Percentage of Production Exported<br>1970 | <br>1980 |
|---|---|---|
| Corn | 12% | 36% |
| Wheat | 55 | 64 |
| Soybeans | 53 | 51 |
| Grain sorghum | 21 | 51 |

Carryovers from 1981's crop plus another projected big harvest in 1982 suggest that grain supplies will be large throughout the year. The best chances for price and income improvement lie with improvements in international demand for U.S. grains. The importance of world market conditions for U.S. grains is indicated by the growing percentage of production which is exported. Currently, over half of wheat, soybean, and grain sorghum production is exported. This delineation is shown in Table 3.

Prospects for stronger export markets will be tied to improvements in the world economy as well as international production. Both variables are difficult to forecast. Barring unforeseen upheavals, little price improvement for grains over 1981 levels is expected in 1982.

The current number of cattle on feed lots is down 6.0 percent from last year and 11 percent from two years ago. This movement suggests declining supplies in the future of high-marble, grain-fed beef. Overall supplies, however, are expected to increase somewhat—perhaps 2.0 percent. Price improvements are closely tied to improvements in overall economic health since more expensive beef is an item people are apt to drop from their diets during recessionary periods.

Reductions in pork output in 1981 of about 5.0 percent from 1980's record 16.4 billion lbs. has set the stage for price improvements. These higher prices are expected to stabilize marketing and rise to the $48-50 range.

The good news for farmers in 1982 is that the prices they pay probably will continue to moderate. The overall Index of Prices paid from January of '81 to January of '82 increased only 4.8 percent. The Index remained unchanged in February from January's levels. Continuing weak demand for equipment and lower petroleum costs should cause this trend to continue through 1982. Interest rates, although currently high by historical standards, are not apt to stray much higher during the remainder of the year.

Bad economic news for farmers often can translate into good short-run economic news for consumers. The Consumer Price Index food component increased an unadjusted 4.3 percent over 1981. The biggest increase was in the cereals group which rose 11.4 percent in '81. The meat, poultry, fish, and egg group actually declined 0.8 percent for the year. The USDA is currently forecasting grocery store food prices to increase about 6.0 percent in 1982.

Best preliminary reports suggest that Kansas' large winter wheat crop survived the severe winter in good to excellent condition. The only kill out reported was among some late-planted acreage in the southeastern corner of the state. In summary, then, preliminary reports suggest another year of large farm supplies with little price improvement in sight especially for grains.

# Research Note: Kansas' Tax Capacity Above National Average

The comparative ability of state governments to finance public services is usually measured by per capita income in each jurisdiction. This approach is deficient, however, in that it ignores other taxable sources such as property, sales, motor fuels, and value of extracted natural resources, which states can and do use to generate income.

The Advisory Commission on Intergovernmental Relations (ACIR) in Washington, D.C. has developed a much more comprehensive measure of state tax capacity.* All bases that are subject to state and local taxation are included in the ACIR calculations. Their approach is quite simple. ACIR estimates the amount of revenue that each state would raise if it used an identical set of tax rates. The rates used are the national average tax rates for each base, and, because the same set of rates is used for all states, an individual state's decision to emphasize one tax over another does not affect the measurement of its overall tax base relative to other states.

ACIR calculated per capita tax capacity for each of the 50 states as a percentage of the national average. The results for Kansas and surrounding states are presented in Table 1, and they suggest that Kansas has a significantly higher per capita tax capacity than the national average. Furthermore, this rating has remained stable in the 1975-1979 period.

Further inspection of the table shows a wide divergence among Kansas' neighboring states with respect to per capita tax capacity ratings. Colorado, Oklahoma, and Iowa are also well above the national average, whereas Missouri and Nebraska fall below it.

One national trend suggested by the study is that the western states have shown strong growth in their tax capacity. The top five rated states were all from western or southwestern regions: Alaska (213 percent), Wyoming (190 percent), Nevada (164 percent), Texas (121 percent), and California (116 percent). By comparison, southern states have the smallest per capita tax base, e.g., Mississippi (71 percent), Alabama (76 percent), South Carolina (77 percent), and Arkansas (78 percent). The largest declines in relative tax capacity for the 1975-1979 period were recorded by northeastern industrial states such as New York, New Jersey, Connecticut, and Massachusetts. The study also showed that tax disparities among the states as measured by the standard deviation of observation about the mean increased in the 1975-1979 period from 10.3 percent in 1975 to 19.2 percent in 1979.

Tax base estimates are important information for state and local governmental officials because they measure a state's capacity to finance public services. Due to the declining level of federal support, many states will be facing the choice of raising additional revenue or cutting back on services. Knowledge of a state's tax capacity is an important input into this decision-making process.

***Rich Sexton***
***Research Economist***

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* *Inter Governmental Perspective*, Advisory Commission on Intergovernmental Relations, 7:3 Summer 1981.

## Table 1
## Relative Tax Capacity and Per Capita Income (as a Percentage of National Average)

| | 1979 | | 1975 | |
|---|---|---|---|---|
| State | Per Capita Tax Capacity | Per Capita Income | Per Capita Tax Capacity | Per Capita Income |
| **Kansas** | **107%** | **105%** | **107%** | **102%** |
| Colorado | 112 | 104 | 107 | 102 |
| Iowa | 106 | 100 | 105 | 101 |
| Missouri | 95 | 94 | 95 | 93 |
| Nebraska | 96 | 99 | 102 | 100 |
| Oklahoma | 112 | 97 | 101 | 89 |

TABLE I. GENERAL BUSINESS INDICATORS FOR KANSAS

| INDICATORS | | | latest date | latest period | % change | % Change Year Ago |
|---|---|---|---|---|---|---|
| Manufacturing | | | | | | |
| Average Work Week | hours | (M) | Dec. | 40.6 | .7 | - 3.4 |
| Average Weekly Earnings | dollars | (M) | Dec. | 344.3 | 2.2 | 7.0 |
| Initial Claims for Unemployment Insurance | th | (M) | Dec. | 17,937.0 | 47.0 | 28.7 |
| New Incorporations | | | | | | |
| In-State for Profit | | (M) | Dec. | 463.0 | 42.0 | -29.6 |
| Out-of-State | | (M) | Dec. | 118.0 | 24.0 | - 9.3 |

Source: Research and Analysis Section
Division of Staff Services
Kansas Dept. of Human Resources
Kansas Secretary of State

## How to Read the *KBR* Tables

Listed at the right of each variable are its unit of measurement and the time period that it reports. For example, in Table I, the "Unemployed" figure is reported in millions and is issued on a monthly basis. The time periods are either quarterly (Q), monthly (M), or weekly (W). Thus, the number of unemployed in January 1982 was 9.3 million.

The "Latest Date" column tells the latest date for which the data are available. The next column then lists that data. The "Percent Change" column offers the percent change from the previous time period. For Table I, the percent change is given at an average annual rate, unless indicated otherwise. For the remaining tables, the percent change is simply the normal percent change taken from the previous period (unless otherwise noted). The "Percent Change Year Ago" is self-explanatory.

TABLE II. NATIONAL INDICATORS

| INDICATORS | | | Latest Date | Latest Period | % Change* | % Change Year Ago |
|---|---|---|---|---|---|---|
| A. INCOME MEASURES | | | | | | |
| Gross National Product | 72 bil. $ | (Q) | 4th | 1497.6 | - 4.7 | -.8 |
| Disposable Personal Income | " | " | " | 1047.3 | 1.4 | 2.1 |
| Personal Consumption | " | " | " | 957.2 | - 2.3 | 1.1 |
| Gross Private Investment | " | " | " | 207.3 | -25.6 | 6.1 |
| Net Export of Goods and Services | " | " | " | 37.5 | -23.2 | -22.7 |
| Personal Savings | " | " | " | 63.3 | 90.8 | 32.9 |
| Savings Rate | % | (Q) | " | 6.1 | (1.0) | (.9) |
| B. LABOR FORCE | | | | | | |
| Civilian Labor Force | mil. | (M) | Jan. | 108.9 | - 3.6 | 3.2 |
| Employed | " | " | " | 99.6 | - .4 | 1.9 |
| Unemployed | " | " | " | 9.3 | -34.2 | 18.5 |
| UNEMPLOYMENT RATES | | | | | | |
| All | % | (M) | " | 8.5 | (- .3) | ( .9) |
| Men | " | " | " | 7.5 | (- .4) | ( 1.5) |
| Women | " | " | " | 7.2 | (- .2) | ( .5) |
| Teen | " | " | " | 21.7 | ( .2) | ( 2.6) |
| Black | " | " | " | 16.8 | (- .5) | ( 5.2) |
| White | " | " | " | 7.5 | (- .2) | ( 1.0) |
| C. PRODUCTION | | | | | | |
| Consumer Goods | 72 bil. $ | (Q) | 4th | 673.1 | -10.8 | 1.5 |
| Durable Goods | " | " | | 263.3 | -21.2 | -6.6 |
| Housing Starts | th | (M) | Dec. | 978.0 | 13++ | -36++ |
| Autos | mil. | (W) | Feb.14 | 77.8 | 50++ | -19++ |
| Business Failures | | (W) | Feb. 7 | 449.0 | 20++ | 21++ |
| D. PRICES | | | | | | |
| Consumer Prices | | | | | | |
| CPI - W, All Items | 1967=100 | (M) | Jan. | 282.1 | 4.3 | 8.2 |
| CPI - U, All Items | " | " | " | 282.5 | 4.3 | 8.5 |
| Food | " | " | " | 273.6 | 13.8 | 1.4 |
| Housing | " | " | " | 306.1 | 3.5 | 9.7 |

TABLE II. NATIONAL INDICATORS (cont.)

| INDICATORS | | | Latest Date | Latest Period | % Change* | % Change Year Ago |
|---|---|---|---|---|---|---|
| Apparel | " | " | " | 187.3 | -20.4 | 2.6 |
| Transportation | " | " | " | 289.9 | .4 | 8.6 |
| Medical | " | " | " | 313.4 | 12.4 | 12.1 |
| Producer Prices | | | | | | |
| All Commodities | " | " | Dec. | 295.9 | 1.7 | 5.4 |
| Industrial Commodities | " | " | " | 310.1 | 3.8 | 8.2 |
| Crude Materials | " | " | " | 311.6 | - 9.6 | - 3.7 |
| Capital Equipment | " | " | " | 274.1 | 5.3 | 9.3 |
| Agricultural Prices | | | | | | |
| Prices Received | 1977=100 | (M) | Jan. | 130 | 18.7 | - 3.0 |
| Prices Paid | " | " | " | 153 | 24.0 | 1.3 |
| Parity Ratio | " | " | " | 85 | 0 | - 4.5 |
| E. BANKINC AND FINANCE | | | | | | |
| Money Supply measures | | | | | | |
| M 1 | bil. $ | (W) | Feb.14 | 446.3 | - .7 | 6.9 |
| M 3 | bil. $ | (M) | Nov. | 2,168.4 | 1.1 | 10.9 |
| Money Supply Components | | | | | | |
| Currency | bil. $ | (W) | Feb.14 | 124.3 | - .1 | 6.3 |
| Total Checkable Deposits | " | " | Feb.14 | 317.7 | - .9 | 7.1 |
| Total Time Deposits | " | " | Feb.14 | 766.4 | .2 | N.A. |
| Interest Rates | | | | | | |
| Prime Rate | % | (W) | Feb.14 | 16.2 | ( .3) | (- 3.6) |
| Discount Rate | " | " | " | 12.0 | ( 0 ) | (- 1.0) |
| Home Mortgage Rate | % | (M) | Feb. | 17.5 | ( .2) | ( 2.2) |
| 90 Day CD's | % | (W) | Feb.14 | 15.6 | ( .4) | (- 1.0) |
| 3 Month T-Bills | % | " | Feb.14 | 14.1 | ( .4) | (- 1.1) |

p = Preliminary

* = Average Annual Rates unless indicated

0 = not available

** = numbers in parentheses indicate absolute change of the indicator

++ = not at annual rates

## TABLE III. EMPLOYMENT AND INCOME

| INDUSTRY | | | latest date | latest period | % change | % change year ago |
|---|---|---|---|---|---|---|
| A. EMPLOYMENT AND INCOME | | | | | | |
| ALL INDUSTRIES | th | (M) | Dec. | 953.8 | -.1 | - 3.6 |
| Manufacturing | " | " | " | 184.7 | -.5 | - .7 |
| Durable Goods | " | " | " | 115.6 | -1.1 | - 3.4 |
| Stone, Clay, Glass | " | " | " | 6.9 | 1.5 | - 8.0 |
| Primary Metals | " | " | " | 3.4 | -2.9 | - 8.2 |
| Fabricated Metal Products | " | " | " | 12.3 | -.8 | 1.7 |
| Machinery (incl. elec.) | " | " | " | 33.5 | -2.8 | - .6 |
| Transportation Equipment | " | " | " | 48.7 | -1.7 | - 3.6 |
| Aircraft and Parts | " | " | " | 41.9 | -2.1 | - 3.0 |
| Other Durable Goods | " | " | " | 10.8 | 0 | -10.8 |
| Nondurable Goods | " | " | " | 68.7 | -.2 | 3.6 |
| Food and Kindred Products | " | " | " | 24.2 | -.8 | 4.3 |
| Meat Products | " | " | " | 10.0 | 0 | 13.6 |
| Apparel | " | " | " | 3.5 | -2.8 | 6.0 |
| Printing and Publishing | " | " | " | 16.6 | 1.8 | 2.5 |
| Chemicals | " | " | " | 8.7 | 0 | 0 |
| Petroleum and Coal | " | " | " | 5.0 | 0 | 0 |
| Other Nondurable | " | " | " | 10.7 | -1.0 | 8.1 |
| Mining | " | " | " | 19.6 | -1.0 | 25.6 |
| Oil and Gas Extraction | " | " | " | 17.7 | -1.1 | 29.2 |
| Contract Construction | " | " | " | 40.8 | -2.6+ | - 5.2 |
| Trans., Comm., Elec., Gas | " | " | " | 63.0 | .1+ | - 1.6 |
| Wholesale Trade | " | " | " | 65.3 | -.1+ | - 1.8 |
| Retail Trade | " | " | " | 169.8 | 1.6 | .5 |
| Finance, Insurance, Real Estate | " | " | " | 47.6 | -.1 | .6 |
| Services | " | " | " | 174.2 | -.4 | .4 |
| Federal Government | " | " | " | 25.6 | -.3 | - 3.8 |

TABLE III. EMPLOYMENT AND INCOME (cont.)

| INDUSTRY | | | latest date | latest period | % change | % change year ago |
|---|---|---|---|---|---|---|
| State and Local Government | th | (M) | " | 163.6 | -.4 | - 1.7 |
| Personal Income | mil $ | (Q) | 3rd | 26,297.0 | 12.2* | 11.0 |

Source: Research and Analysis Section
Division of Staff Services
Kansas Dept. of Human Resources
: Bureau of Economic Analysis

* = Average annual rate.

TABLE IV. CONSUMER PRICES - Kansas City.
CPI For All Urban Consumers
(CPI - U)

| CATEGORY | | | latest date | latest period | % change* | % change year ago |
|---|---|---|---|---|---|---|
| All Items | 1967=100 | (M) | Dec. | 273.5 | 2.0 | 5.6 |
| Food and Beverages | " | " | " | 271.5 | 3.1 | 2.7 |
| Housing | " | " | " | 288.5 | 0 | 4.5 |
| Apparel and Upkeep | " | " | " | 190.5 | -32.4 | - 1.1 |
| Transportation | " | " | " | 278.4 | 12.1 | 9.4 |
| Medical Care | " | " | " | 306.2 | 5.1 | 13.1 |

* From Two Months Previous

Source: Bureau of Labor Statistics

## TABLE V. EMPLOYMENT AND SALES DATA FOR KANSAS, STATE AND AREAS

| AREA | | | latest date | latest period | % change | % change year ago |
|---|---|---|---|---|---|---|
| Kansas - Statewide | | | | | | |
| Civilian Labor Force | th | (M) | Jan. | 1188.5 | - 1.5 | .3 |
| Employed | " | " | " | 1134.0 | - 2.2 | 1.8 |
| Farm* | " | " | " | 45.7 | - 7.1 | - 2.3 |
| Unemployed | " | " | " | 54.5 | 13.1 | 12.4 |
| Rate | % | (M) | " | 4.6 | ( .6) | ( .5) |
| Retail Sales** | mil $ | (M) | Dec. | 1157.1 | 5.6 | 11.6 |
| Wichita SMSA | | | | | | |
| Civilian Labor Force | th | (M) | Dec. | 227.6 | .1 | 1.0 |
| Employed | " | " | " | 218.4 | .1 | .4 |
| Farm | " | " | " | 2.0 | - 4.8 | 0 |
| Unemployed | " | " | " | 9.2 | 12.2 | 16.5 |
| Rate | % | (M) | " | 4.4 | ( .4) | ( .5) |
| Retail Sales | mil $ | (M) | " | 241.1 | 6.0 | 12.6 |
| KANSAS Portion of Kansas City SMSA | | | | | | |
| Civilian Labor Force | th | (M) | Dec. | 275.4 | .5 | 2.4 |
| Employed | " | " | " | 263.2 | .4 | 2.4 |
| Farm | " | " | " | 1.1 | - 8.3 | 0 |
| Unemployed | " | " | " | 12.2 | 3.4 | 1.7 |
| Rate | % | (M) | " | 4.4 | ( .1) | (- .1) |
| Retail Sales | mil $ | (M) | " | 200.5 | 5.1 | 9.4 |
| TOPEKA SMSA | | | | | | |
| Civilian Labor Force | th | (M) | Dec. | 94.6 | .4 | .3 |
| Employed | " | " | " | 89.7 | 0 | .3 |
| Farm | " | " | " | 1.4 | -12.5 | - 6.7 |
| Unemployed | " | " | " | 4.9 | 8.9 | - 5.8 |
| Rate | % | (M) | " | 5.2 | ( .3) | (- .3) |
| Retail sales | mil $ | (M) | " | 79.2 | 3.3 | 8.8 |
| LAWRENCE SMSA | | | | | | |
| Civilian Labor Force | th | (M) | Dec. | 35.1 | - .6 | 1.7 |
| Employed | " | " | " | 33.7 | - .6 | - .6 |
| Farm | " | " | " | .6 | -14.3 | 0 |
| Unemployed | " | " | " | 1.4 | 0 | - 6.7 |
| Rate | % | (M) | " | 4.0 | ( 0 ) | (- .3) |
| Retail Sales | mil $ | (M) | " | 25.1 | 5.1 | 9.4 |

## TABLE V. EMPLOYMENT AND SALES DATA FOR KANSAS, STATE AND AREA (cont.)

| AREA | | | latest date | latest period | % change | % change year ago |
|---|---|---|---|---|---|---|
| Riley Co. - Manhattan Area | | | | | | |
| Civilian Labor Force | th | (M) | Dec. | 21.3 | 0 | - 1.3 |
| Employed | " | " | " | 20.6 | 0 | - .4 |
| Farm | " | " | " | .8 | 20 | -11.1 |
| Unemployed | " | " | " | .7 | -12.5 | -22.2 |
| Rate | % | (M) | " | 3.3 | (- .2) | (- 1.0) |
| Retail Sales | mil $ | (M) | " | 16.5 | 6.4 | 13.6 |
| Reno Co. - Hutchinson Area | | | | | | |
| Civilian Labor Force | th | (M) | Dec. | 30.7 | 3.0 | - 1.0 |
| Employed | " | " | " | 29.3 | 3.2 | .3 |
| Farm | " | " | " | 1.0 | - 9.1 | - 9.1 |
| Unemployed | " | " | " | 1.5 | - 3.0 | -19.4 |
| Rate | % | (M) | " | 4.2 | (- .2) | (- 1.0) |
| Retail Sales | mil $ | (M) | " | 30.8 | 4.1 | 10.8 |
| Crawford Co. -Pittsburg Area | | | | | | |
| Civilian Labor Force | th | (M) | Dec. | 16.5 | - 1.2 | - 3.5 |
| Employed | " | " | " | 15.6 | - 1.3 | - 3.7 |
| Farm | " | " | " | .7 | - 7.1 | - 7.1 |
| Unemployed | " | " | " | .9 | 0 | 0 |
| Rate | % | (M) | " | 5.2 | ( .1) | (- .1) |
| Retail Sales | mil $ | (M) | " | 12.8 | 4.4 | 5.6 |
| Lyon Co. - Emporia Area | | | | | | |
| Civilian Labor Force | th | (M) | Dec. | 18.2 | 0 | 2.2 |
| Employed | " | " | " | 17.4 | - .6 | 1.8 |
| Farm | " | " | " | .7 | -30.0 | 0 |
| Unemployed | " | " | " | .9 | 21.4 | 6.3 |
| Rate | % | (M) | " | 4.7 | ( .8) | ( .4) |
| Retail Sales | mil $ | (M) | " | 15.4 | 10.5 | 16.4 |

## TABLE V. EMPLOYMENT AND SALES DATA FOR KANSAS, STATE AND AREA (cont.)

| AREA | | | latest date | latest period | % change | % change year ago |
|---|---|---|---|---|---|---|
| Salina Co. - Salina Area | | | | | | |
| Civilian Labor Force | th | (M) | Dec. | 26.5 | - .3 | - 1.5 |
| Employed | " | " | " | 25.1 | - .4 | - 2.0 |
| Farm | " | " | " | .6 | 20.0 | 0 |
| Unemployed | " | " | " | 1.4 | 0 | 16.7 |
| Rate | % | (M) | " | 5.4 | ( .2) | ( .8) |
| Retail Sales | mil $ | (M) | " | 28.9 | 4.4 | 10.3 |
| Barton Co. - Great Bend Area | | | | | | |
| Civilian Labor Force | th | (M) | Dec. | 19.2 | 4.4 | 6.1 |
| Employed | " | " | " | 18.7 | 3.9 | 5.7 |
| Farm | " | " | " | .7 | -12.5 | -12.5 |
| Unemployed | " | " | " | .5 | 12.5 | 12.5 |
| Rate | % | (M) | " | 2.3 | ( .1) | ( .4) |
| Retail Sales | mil $ | (M) | " | | | |
| Montgomery Co. - Coffeyville Area | | | | | | |
| Civilian Labor Force | th | (M) | Dec. | 21.7 | - .5 | 2.8 |
| Employed | " | " | " | 20.7 | - .5 | 2.0 |
| Farm | " | " | " | .5 | 0 | 0 |
| Unemployed | " | " | " | 1.0 | (22.5) | 12.5 |
| Rate | % | (M) | " | 4.5 | ( .8) | ( .7) |
| Retail Sales | | | | | | |

* Non-farm employed equals employed minus farm employed.

** All retail sales figures are a monthly average for prior three months.

Sources: Research and Analysis Section
Division of Staff Services
Kansas Department of Human Resources
: Tax Research Section
Kansas Department of Revenue

TABLE VI. RETAIL SALES SUBJECT TO SALES TAX BY BUSINESS CLASSIFICATION*

| BUSINESS CLASSIFICATION | | latest date | latest period | % change | % change year ago |
|---|---|---|---|---|---|
| Apparel | mil $(M) | Dec. | 32.5 | 8.3 | 2.9 |
| Automotive | " " | " | 210.9 | 4.9 | 5.1 |
| Food | " " | " | 275.3 | 8.6 | 10.6 |
| Furniture | " " | " | 47.1 | 3.5 | 4.9 |
| General Merchandise | " " | " | 169.6 | 8.9 | 12.0 |
| Lumber and Building Materials | " " | " | 93.6 | 3.3 | .4 |
| Professional and Personal Service | " " | " | 52.8 | 5.0 | 14.0 |
| Public Utilities | " " | " | 59.0 | 3.1 | 12.4 |
| Unclassified | " " | " | 108.8 | 3.6 | 2.6 |
| Farm and Garden Products | " " | " | 1.0 | 0 | 0 |
| Manufacturing and Trading | " " | " | 101.0 | 3.2 | 11.7 |
| Miscellaneous | " " | " | 4.1 | 28.1 | 32.3 |
| TOTAL | " " | " | 1,155.9 | 5.9 | 7.8 |

* Monthly average for prior three months.

Source: Tax Research Section
Kansas Dept. of Revenue

TABLE VII. BANKING AND FINANCIAL ACTIVITY

| AREA | | latest date | latest period | % change | % change year ago |
|---|---|---|---|---|---|
| Member Commercial Banks | | | | | |
| KANSAS | | | | | |
| Total Loans | mil $(M) | Jan. | 3892.0 | 7.0 | 5.7 |
| Total Deposits | " " | " | 6746.0 | 2.6 | 7.8 |
| Demand Deposits | " " | " | 1900.0 | 2.4 | 9.8 |
| Time and Savings | " " | " | 4846.0 | 2.6 | 12.5 |
| Kansas City, KS. * | | | | | |
| Total Loans | mil $(M) | Jan. | 200.0 | 2.0 | - 1.5 |
| Real Estate | " " | " | 21.0 | 0 | 16.7 |
| Commercial and Industrial | " " | " | 50.0 | 4.2 | 2.0 |
| Consumer | " " | " | 46.0 | 0 | -16.4 |
| Total Deposits | " " | " | 341.0 | 4.0 | 4.9 |
| Demand Deposits | " " | " | 104.0 | 1.0 | 3.0 |
| Time and Savings | " " | " | 237.0 | 5.3 | 5.8 |

TABLE VII. BANKING AND FINANCIAL ACTIVITY (cont.)

| AREA | | latest date | latest period | % change | % change year ago |
|---|---|---|---|---|---|
| Topeka * | | | | | |
| Total Loans | mil $(M) | Jan. | 260.0 | 1.2 | 1.6 |
| Real Estate | " " | " | 43.0 | - 2.3 | 2.4 |
| Commercial and Industrial | " " | " | 134.0 | 6.3 | 22.9 |
| Consumer | " " | " | 42.0 | 0 | - 6.7 |
| Total Deposits | " " | " | 424.0 | 2.4 | 12.5 |
| Demand Deposits | " " | " | 171.0 | 6.9 | 2.4 |
| Time and Savings | " " | " | 253.0 | 0 | 20.5 |
| Wichita * | | | | | |
| Total Loans | mil $(M) | Jan. | 767.0 | 0 | 7.4 |
| Real Estate | " " | " | 108.0 | 0 | - 7.7 |
| Commercial and Industrial | " " | " | 342.0 | - 1.0 | 14.4 |
| Consumer | " " | " | 220.0 | .9 | 4.8 |
| Total Deposits | " " | " | 1237.0 | 1.1 | 9.1 |
| Demand Deposits | " " | " | 524.0 | .6 | 5.9 |
| Time and Savings | " " | " | 713.0 | 1.6 | 11.4 |
| Savings and Loans | | | | | |
| Kansas | | | | | |
| Loans Made | mil $(M) | Jan. | 34.3 | -18.1 | - 40.0 |
| Net Gain in Savings | " " | " | - 2.1 | - | - |
| Kansas City, KS. | | | | | |
| Loans Made | " " | " | 3.4 | -39.3 | - 56.4 |
| Net Gain in Savings | " " | " | - 7.4 | - | - |
| Topeka | | | | | |
| Loans Made | " " | " | 4.0 | -32.2 | - 38.5 |
| Net Gain in Savings | " " | " | 3.0 | - | 25.0 |
| Wichita | | | | | |
| Loans Made | " " | " | 8.5 | -26.7 | - 51.2 |
| Net Gain in Savings | " " | " | - 5.9 | - | - |

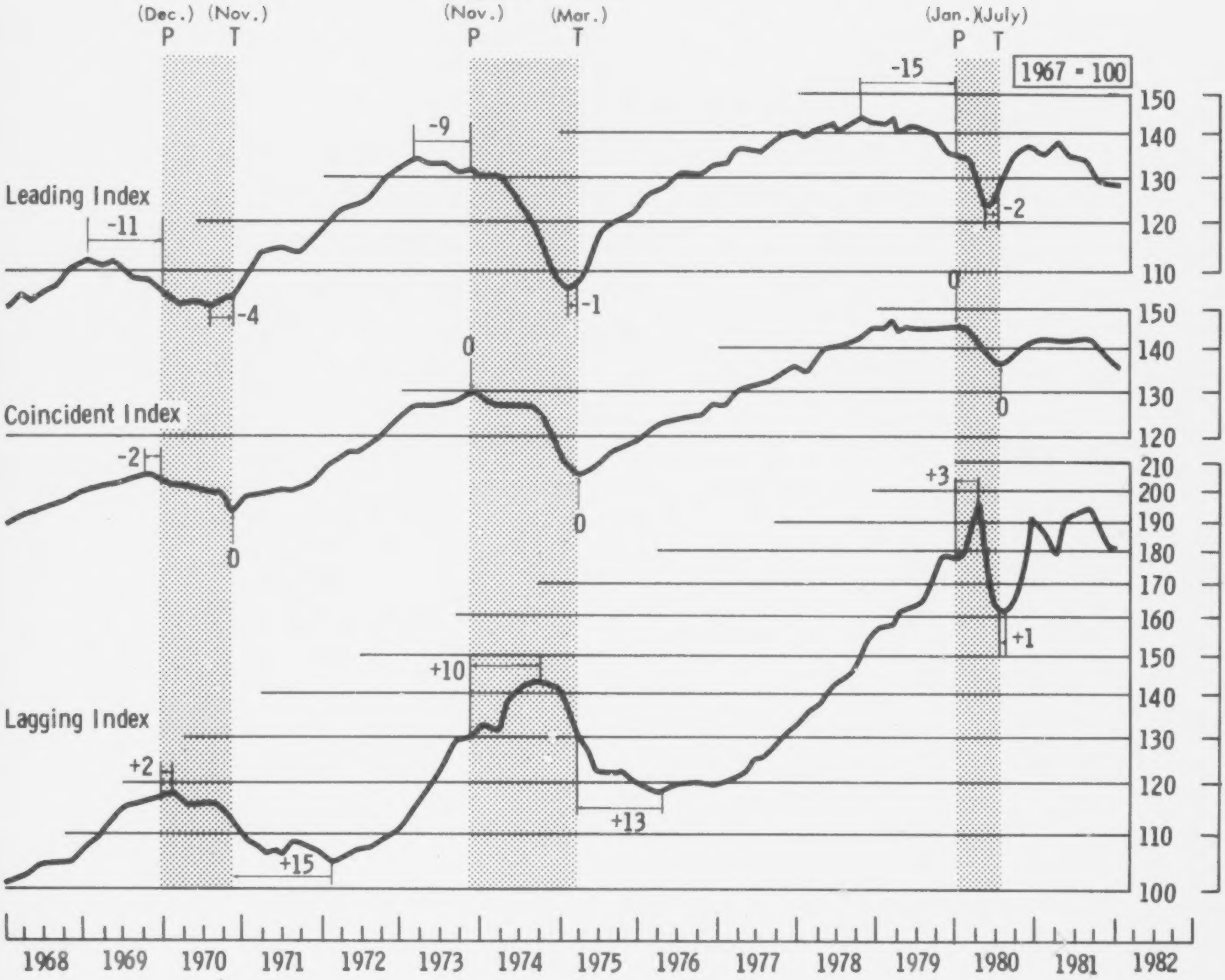
* Includes large commercial bank only.

TABLE VIII. KANSAS AGRICULTURAL INDICATORS

| INDICATORS | | latest date | latest period | % change | % change year ago |
|---|---|---|---|---|---|
| Prices Received | | | | | |
| All Farm Products | 1967-100 | (M) Jan. | 241.0 | .4 | - 11.7 |
| All Crops | | (M) " | 246.0 | - 1.2 | - 13.4 |
| Wheat | $/bu | (M) Feb. | 3.75 | - 1.6 | - 5.3 |
| Sorghum Grain | $/cwt. | " " | 3.89 | .3 | - 23.9 |
| Corn | $/bu | " " | 2.54 | .4 | - 24.9 |
| Soybeans | " | " " | 5.69 | - 2.4 | - 19.4 |
| All Hay | $/ton | " " | 57.50 | 4.6 | - 19.6 |
| Livestock and Products | 1967 = 100 | Jan. | 241 | | |
| All Beef Cattle | $/cwt. | (M) Jan. | 52.2 | .6 | |
| Steers and Heifers | $/cwt. | (M) Jan. | 56.70 | .5 | -13.8 |
| Calves | $/cwt. | (M) Jan. | 60.70 | .2 | -15.9 |
| Hogs | $/cwt. | (M) Feb. | 48.40 | 13.3 | 17.8 |
| Prices Paid[1] | | | | | |
| Hog Conc. (38-42%) | $/cwt. | (M) Jan | 11.50 | -20.7 | -28.6 |
| Beef Cattle Conc. (32-36%) | $/cwt. | (M) Jan | 14.30 | 30 | 19.2 |
| Milk-Feed Price Ratio | | (M) Jan. | 1.49 | -4.5 | 4.9 |
| Crop Production[2]* | | | | | |
| Wheat (all) | mil. BU | (M) 1981 | 305.0 | -27.4 | -27.4 |
| Hay Stocks (all) | mil. ton | (M) 1981 | 6070.0 | 48.0 | 48.0 |
| Corn Grain | mil. BU | (M) 1981 | 158.8 | 43.2 | 43.2 |
| Sorghum Grain | mil. BU | (M) 1981 | 238.5 | 59.4 | 59.4 |
| Soybeans | mil. BU | (M) 1981 | 45.3 | 88.8 | 88.8 |
| Livestock Production (INVENTORY)[3] | | | | | |
| All Cattle and Calves | th head | (M) Feb. | 1060 | -4.5 | -1.8 |
| All Cows that calved | th head | (M) N.A. | - | - | - |
| Hogs | th head | (M) N.A. | - | - | - |
| Farm Income[4] | mil. $ | (Q) 3rd | 651.0 | 16.5 | -7.5 |

*Crop production figures are estimates for what the total harvest will be for the harvest year. Figures for 1982 will be reported monthly starting in March. Final harvest figures will be reported each January.

Source:
1. Farm Finance, KCLRS
2. CROPS, KCLRS
3. Livestock on FEED, KCLRS
4. Bureau of Economic Analysis



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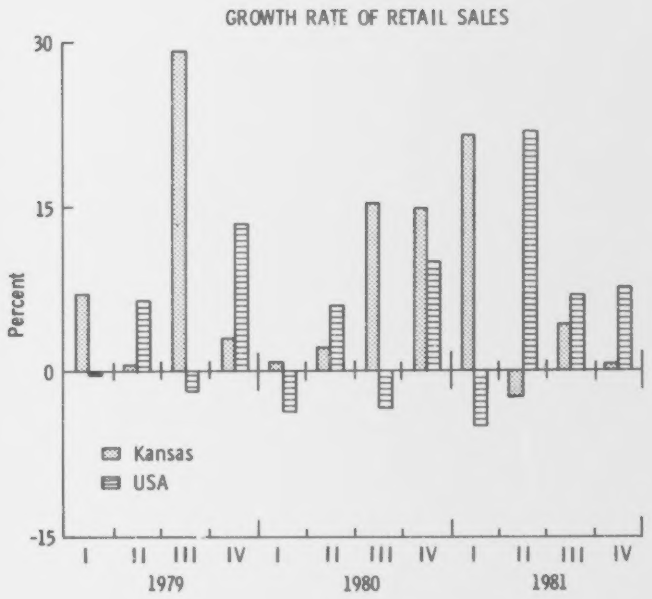
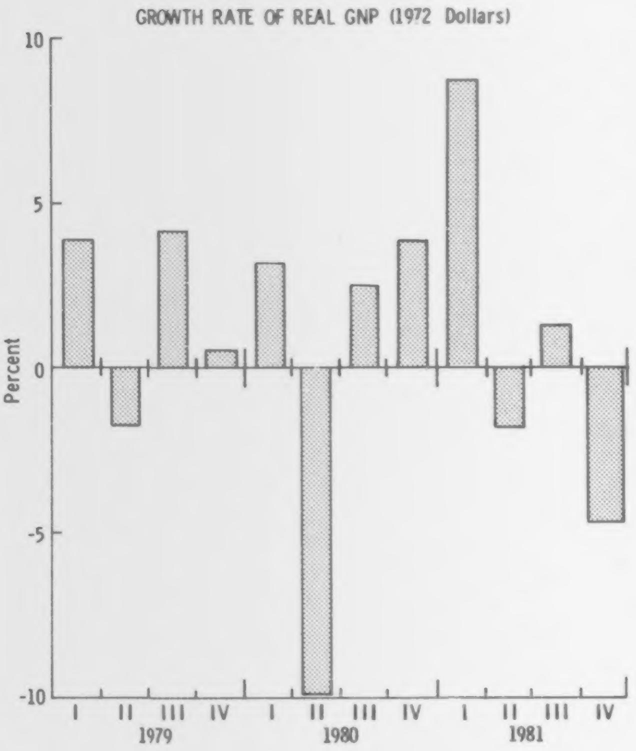
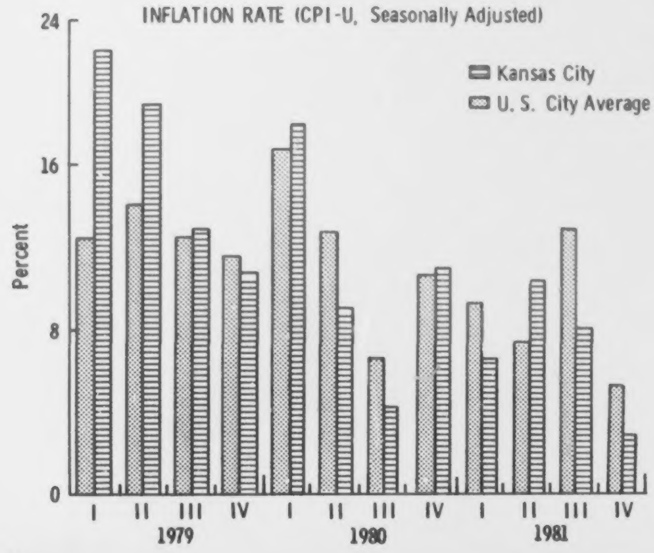


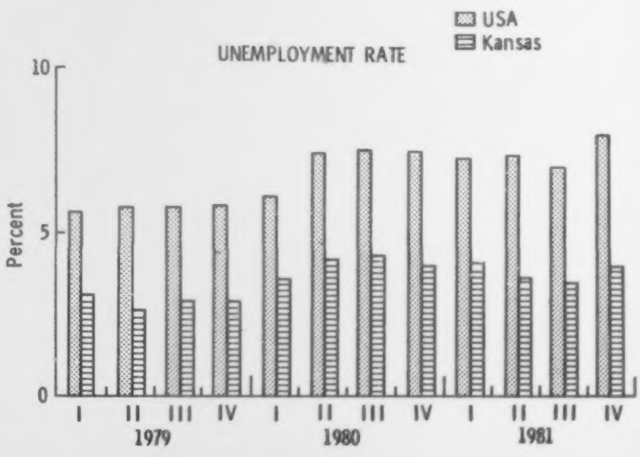
GROWTH RATE OF REAL GNP (1972 Dollars)



INFLATION RATE (CPI-U, Seasonally Adjusted)



UNEMPLOYMENT RATE



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# KANSAS BUSINESS REVIEW

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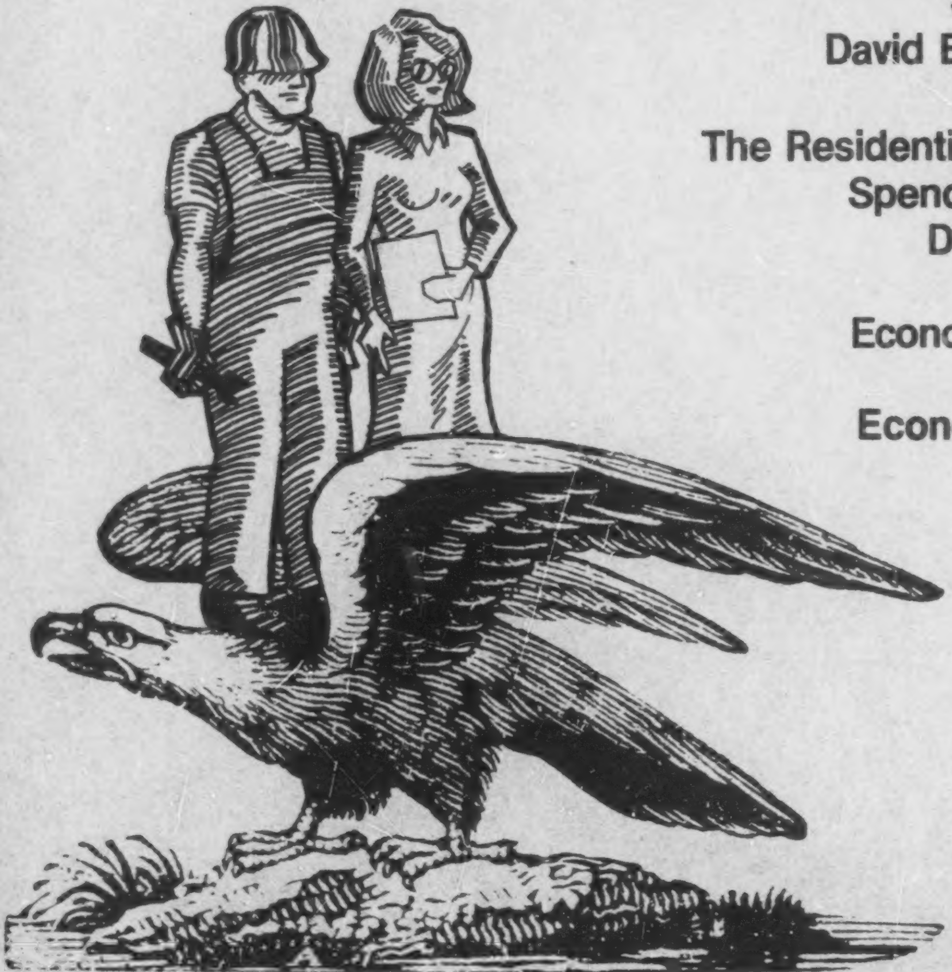
Judith C. Sardo
David E. Shulenburger

## The Residential Energy User: Spendthrift or Saver?

Douglas Houston

## Economic Conditions

## Economic Indicators



Institute for Economic and Business Research, The University of Kansas

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# The Cost Effectiveness of CETA in Kansas

**The inescapable conclusion of the study's results is that CETA programs prove to be sound, cost-effective investments for the state.**

**Judith C. Sardo**
**David E. Shulenburger**

Judith Sardo is Executive Director of the Human Resources Program at the University of Kansas. Before coming to KU, Ms. Sardo was Director of CETA Public Service Employment for the state of Kansas. Dr. David Shulenburger is a Professor of Business Administration in the School of Business at the University of Kansas and Chair of the Faculty Policy Board of the Human Resources Program.

## Authors' Note

The implementation and findings of this impact evaluation system are the culmination of six years of effort by University of Kansas faculty and staff members associated with the Human Resources Program. Research projects in 1975-76 and 1978 using Department of Human Resources data laid the groundwork and tested ideas. The subsequent system is built, therefore, on a strong foundation of thorough research. We also see the system as a continuation of a strong relationship between the Human Resources Program and the Department of Human Resources (DHR), a relationship which has proved beneficial to both groups.

Without the involvement of DHR personnel, this system's metamorphosis from theory to practice would not have occurred. We particularly acknowledge the role which CETA Director Richard Hernandez's enthusiasm, encouragement, and foresight played in making this a reality. Mary Bogart, Bobbi Alward, Dean Engroff, and other CETA staff members gave much of their time and effort to ensure that the system answered questions which program managers most needed answered.

We also acknowledge the role of the DHR Computer/Data Services Department. Pete Deckenback and Anne Brown translated our designs into a system that produces the tabular output accurately, readily, and cheaply. In addition, they anticipated the program changes that surely will occur and made the system sufficiently flexible to accommodate them.

Finally, we wish to thank the Human Resources Program associates who assisted us, Peter Raimondo and Jack Gibbons.

## Introduction

Today, there is a consensus that not all of the social programs developed and implemented in the 1960s and early 1970s were worth their cost. However, very few would say that, in consequence, all such programs should be abandoned. The issue is clearly one of identifying the programs which are successful and those which are not. Following that evaluation, the decisions should be made to continue and carefully monitor the successful programs and either jettison or radically alter the failing programs. Although little disagreement exists with this position from a theoretical point of view, considerable controversy surrounds the question of which social programs are failures and which are successes. In large part, the problematic nature of this debate is occasioned by the absence of a methodology or methodologies which adequately evaluate the costs and benefits of particular programs. The article provides such an evaluative system for the programs authorized by the Comprehensive Employment and Training Act in Kansas.

In December of 1973, *The Comprehensive Employment and Training Act of 1973* (CETA) was passed by Congress and signed into law by President Nixon. With the enactment of CETA, the process of decentralizing responsibility for planning, designing, and operating the federally-funded categorical employment and training programs developed since the early 1960s was essentially completed. The motive for the decentralization of these employment and training programs arose from the realization that the problems of the unemployed and poor differed from one locality to another. By locating the decision-making process closer to home, it was felt that more appropriate, problem-specific strategies for helping the unemployed and poor could be developed.

The Kansas Balance of State (BOS)-CETA program has spent over 80 million dollars assisting Kansans since its inception in 1973. Without a doubt, this enormous amount of money has helped the program's clients by providing training and by placing unemployment, underemployed, and economically disadvantaged individuals in jobs. However, the questions remain: Has this program been cost effective; has it been successful? To make this judgment, one needs initially an accurate description of the goals of the CETA program and then a system of evaluation which can rate the level of success achieved in relation to the cost expended.

The 1978 amendments to CETA modified the basic goals of the CETA programs. The Statement of Purpose from the 1978 amendments reads:

> It is the purpose of this Act to provide job training and employment opportunities for economically disadvantaged, unemployed, or underemployed persons which will result in an increase in their earned income, and to assure that training and other services lead to maximum employment opportunities and enhanced self-sufficiency.

The federal government has measured success in the CETA program by 1) the number of persons placed in a job within 90 days after completion of training or employment and 2) the average hourly wage of all participants as recorded at termination from the program.

As reported in this article, the state of Kansas, however, has developed a more sophisticated way to measure the value of CETA to the state: the impact of CETA training and jobs on the clients' earnings. **Based upon business principles, this system evaluates the extent to which investment in training, work experience, and other services will yield a return to the state.**

This paper first examines the significant features of any system which purports to evaluate social services and then briefly describes the new methodology developed to evaluate the Kanss BOS-CETA program. Following, the new methodology will be use to measure the cost effectivenes of the Kansas BOS-CETA program.

## Evaluation: What is it?

There are basically two types of evaluations which social service program managers perform: evaluations of efficiency and evaluations of effectiveness. Evaluations of **efficiency** look at immediate or intermediate program results in relation to inputs of time, personnel, material, or money. For example, computing by quarter the number of persons trained is, in essence, measuring an immediate result of the program per period of time or the efficiency with which time is translated into training. Similarly, a cost-per-placement figure reflects the efficiency with which dollars are turned into placements. Most management information systems are designed to generate such efficiency measures of program performance. Quite properly, federal reporting requirements specify the particular efficiency measures to be reported.

Whereas, then, efficiency evaluations look at how well programs do relative to the means of accomplishing their goals, **effectiveness** evaluations consider how well programs perform relative to program goals. For example, the number of successful completors of a training program would be important in an efficiency evaluation, but an effectiveness evaluation would focus instead on the success of program participants in the labor market. Instead of tallying means, the effectiveness evaluation looks directly at ends. That is, evaluations of effectiveness consider the impacts which the programs have on various aspects of participants' lives. For instance, measuring the change in participants' income, mental health, or time spent unemployed due to the program captures the effectiveness of the program.

The fact is that most information systems either are not designed to measure program effectiveness or else measure it poorly. This narrow focus on efficiency rather than effectiveness is curious because the goals of programs are often stated in effectiveness terms. For example, the goals of the CETA program, as quoted above, are stated in effectiveness terms, not efficiency terms.

At the local implementation level, there are, at times, good reasons for only using efficiency evaluations. In programs funded by federal categorical grants, local units are asked to assume that the programs which they administer—but which were designed at the national level—are effective programs. However, block grant programs, like CETA, are not centrally designed. Administrators can, within fairly broad limits, determine how most programs are to be designed and administered. Thus, these specific programs need to be evaluated in terms of effectiveness at the local level. Although anecdotal evidence exists that many programs are effective, few have been "shown" to be effective. Moreover, those programs which have been shown to be effective apparently do not "travel" well. A good example of such a program is OIC (Opportunities Industrialization Center). This program as implemented by Reverend Leon Sullivan in Philadelphia has almost universally been acclaimed for its effectiveness. OIC attempts to enhance labor market success of participants through a mixture of job training and motivation combined with persuasion of employers to hire program completors. Attempts to transplant this program to other locations, however, have apparently been successful only in a limited number of locations. Thus, the evaluation of program effectiveness is important even when a program has proven itself to be effective in another location.

## The New Methodology

The Human Resources Program of the University of Kansas was asked by Richard Hernandez, CETA Director, to develop for the BOS-CETA program an Impact Evaluation System.

The agency had a number of goals and guidelines which the system was developed to address: 1) The focus of the evaluation system had to be the effect of CETA on the income of participants and the related effect on state expenditures and tax revenues. 2) The system had to be able to follow participants over a prolonged period of time in order to determine long-run impact and also able to generate reports for periods reasonably close to the present. 3) The system had to be practical for Department of Human Resources personnel to use and had to answer questions which they felt were significant. 4) The system had to be inexpensive to operate. 5) The system had to be controlled by BOS so that the confidentiality of individual clients was protected from nonagency persons.

There were basically four categories of information needed to conduct such an effectiveness evaluation, most of which are presently collected

**Considerable controversy surrounds the question of which social programs are failures and which are successes.**

by, or accessible to, any agencies operating social programs: 1) demographic, personal, and educational characteristics inventories, 2) pre-program earnings and work history profiles, 3) detailed records of program services received, and 4) post-program earnings and work history profiles. The pre- and post-program histories are obviously necessary to determine whether the client's status was different after the program than before. The detailed history of program services permits one to evaluate whether specific individual services as contrasted with entire programs are associated with certain outcomes. Demographic, personal, and individual characteristics inventories are necessary if one is to determine whether it is the participants' characteristics or the characteristics of the program which are responsible for changes associated with the program.

As discussed earlier, the question which an effectiveness evaluation asks is whether the program made a difference in the lives of its participants, and this question cannot be answered by the simple methodology of comparing post-program participant earnings with pre-program participant earnings. As time passes while participants are in a program, many factors can alter income, e.g., the changing status of the economy, the aging of the participant, or the entry of new firms into an area.

The separate impact of the program can be found, however, by comparing changes in the incomes of those who went through the program with changes in the incomes of nonparticipants who are statistically identical to the participants. This statistically identical group of nonparticipants functioned as the control group in the new system and was drawn from applicants to the Employment Service who were economically disadvantaged.

## Interpretation of the Results

The effectiveness evaluation system briefly outlined above was used to evaluate two different groups of people. **The results are evidence for the effectiveness of these programs.** The first test compared the performance of two groups of economically disadvantaged people. The control group of 1,129 received no job training; the other group of 1,384 enrolled in CETA programs to be trained as, for example, machinists, secretaries, typists, waiters and waitresses, and hospital aides. Their training was completed in the third quarter of 1979, and then both groups' earnings were monitored for a year afterwards. The control group's average annual earnings were $2,798 while the CETA participants' average annual earnings after the CETA training were $4,558 (see Table 1). Therefore, the CETA participants earned 62.9 percent more than the untrained control group. As well, the average annual earnings for all participants after training were 102.3 percent greater than their average annual earnings prior to participation.

A second test was run comparing the group which finished its CETA training during the fourth quarter of 1980 with another control group. This time, the trained group's income exceeded the untrained group's income by 67.8 percent (see Table 2). However,

### Table 1
### CETA Impact Study (1979)
### Pre-Post Earnings Levels

| Characteristics | | CETA Count | Pre-CETA Average Annual Earnings | Post-CETA Average Annual Earnings | Percent Difference | Control Count | Control Group Average Annual Earnings | Percent Difference Control-Participant |
|---|---|---|---|---|---|---|---|---|
| Total | | 1,384 | $2,253 | $4,558 | 102.3% | 1,129 | $2,798 | 62.9 |
| Sex | Male | 878 | 2,360 | 4,577 | 93.9 | 528 | 3,455 | 32.5 |
| | Female | 506 | 2,067 | 4,523 | 118.8 | 601 | 2,221 | 103.6 |
| Age | 14-15 | 0 | 0 | 0 | — | 23 | 111 | — |
| | 16-19 | 216 | 1,286 | 3,314 | 157.7 | 159 | 2,020 | 64.1 |
| | 20-21 | 236 | 2,153 | 4,306 | 100.0 | 127 | 2,796 | 55.5 |
| | 22-44 | 837 | 2,484 | 4,885 | 96.6 | 684 | 3,266 | 49.6 |
| | 45-54 | 63 | 2,152 | 5,479 | 154.6 | 85 | 2,194 | 149.7 |
| | 55 and Over | 32 | 3,667 | 4,432 | 20.9 | 51 | 1,177 | 276.5 |
| Education | Student/Dropout | 435 | 1,667 | 3,398 | 103.8 | 442 | 2,265 | 50.0 |
| | High School Grad. | 805 | 2,543 | 4,879 | 91.9 | 442 | 3,268 | 49.3 |
| | Post High School | 344 | 2.485 | 5,459 | 119.7 | 245 | 2,913 | 87.4 |
| Receiving Public Assistance | | 115 | 1,599 | 3,508 | 119.3 | 229 | 2,267 | 54.7 |
| Economically Disadvantaged | | 1,336 | 2,168 | 4,465 | 105.9 | 1,129 | 2,798 | 59.6 |
| Race or Ethnic Group | White (not Hispanic) | 1,104 | 2,404 | 4,842 | 101.4 | 937 | 2,914 | 66.2 |
| | Black (not Hispanic) | 180 | 1,412 | 3,002 | 112.6 | 102 | 1,719 | 74.6 |
| | Hispanic | 53 | 1,842 | 4,910 | 166.5 | 57 | 3,173 | 54.7 |
| | Amer. Ind.-Alaskan | 36 | 2,815 | 2,575 | – 8.5 | 20 | 1,949 | 32.1 |
| | Asian or Pac. Island | 11 | 973 | 6,287 | 546.0 | 13 | 2,582 | 143.5 |
| Migrant/Seasonal Farm Worker | | 6 | 2,293 | 3,576 | 55.9 | 8 | — | — |
| Veteran Group | Veteran | 283 | 3,158 | 4,856 | 53.8 | 183 | 4,067 | 19.4 |
| | Vietnam (under 35) | 102 | 3,614 | 5,696 | 57.6 | 43 | 3,537 | 61.0 |
| | Special Disabled | 24 | 4,244 | 5,478 | 29.1 | 3 | 764 | 617.0 |
| Handicapped | | 101 | 3,362 | 5,212 | 55.0 | 106 | 2,093 | 149.0 |
| Receiving Unemployment | | 0 | 0 | 0 | — | 173 | 4,912 | — |

## Table 2
## CETA Impact Study (1980)
## Pre-Post Earnings Levels

| Characteristics | | CETA Count | Pre-CETA Average Annual Earnings | Post-CETA Average Annual Earnings | Percent Difference | Control Count | Control Group Average Annual Earnings | Percent Difference Control-Participant |
|---|---|---|---|---|---|---|---|---|
| Total | | 811 | $2,429 | $3,171 | 30.5% | 686 | $1,889 | 67.8 |
| Sex | Male | 454 | 2,704 | 3,298 | 22.0 | 335 | 2,172 | 51.8 |
| | Female | 357 | 2,080 | 3,009 | 44.7 | 351 | 1,620 | 85.7 |
| Age | 14-15 | 2 | 0 | 0 | — | 33 | 29 | — |
| | 16-19 | 132 | 1,310 | 2,636 | 101.2 | 128 | 1,264 | 54.3 |
| | 20-21 | 135 | 1,974 | 2,521 | 27.7 | 84 | 2,490 | 1.2 |
| | 22-44 | 487 | 2,849 | 3,489 | 22.5 | 360 | 2,128 | 63.9 |
| | 45-54 | 33 | 2,460 | 3,468 | 41.0 | 36 | 2,059 | 68.4 |
| | 55 and Over | 22 | 2,814 | 3,161 | 12.3 | 45 | 1,869 | 69.1 |
| Education | Student/Dropout | 222 | 1,819 | 1,990 | 9.4 | 291 | 1,178 | 68.9 |
| | High School Grad. | 412 | 2,884 | 3,410 | 18.2 | 265 | 2,282 | 49.4 |
| | Post High School | 177 | 2,136 | 4,096 | 91.8 | 130 | 2,650 | 52.8 |
| Receiving Public Assistance | | 181 | 2,227 | 2,902 | 30.3 | 145 | 1,715 | 69.2 |
| Economically Disadvantaged | | 797 | 2,416 | 3,177 | 31.5 | 685 | 1,889 | 68.2 |
| Race or Ethnic Group | White (not Hispanic) | 650 | 2,585 | 3,455 | 33.6 | 576 | 1,869 | 42.4 |
| | Black (not Hispanic) | 89 | 1,878 | 1,715 | – 8.7 | 63 | 1,935 | – 11.4 |
| | Hispanic | 37 | 1,615 | 2,329 | 44.2 | 34 | 1,525 | 52.7 |
| | Amer. Ind.-Alaskan | 22 | 1,562 | 1,538 | – 1.6 | 4 | 5,471 | – 71.8 |
| | Asian or Pac. Island | 13 | 2,191 | 4,108 | 87.5 | 9 | 2,659 | 54.5 |
| Migrant/Seasonal Farm Worker | | 8 | 3,096 | 1,578 | – 49.0 | 5 | — | — |
| Veteran Group | Veteran | 144 | 3,381 | 4,361 | 29.0 | 91 | 2,536 | 71.9 |
| | Vietnam (under 35) | 58 | 3,867 | 6,203 | 50.4 | 17 | 650 | 861.5 |
| | Special Disabled | 5 | 637 | 2,530 | 297.1 | 3 | 8,474 | – 35.1 |
| Handicapped | | 74 | 3,158 | 4,069 | 28.8 | 49 | 2,291 | 77.6 |
| Receiving Unemployment | | 4 | 4,618 | 3,093 | – 33.0 | 85 | 2,849 | 8.6 |

the average annual earnings for all participants after the CETA training was only 30.5 percent greater than their average annual earnings prior to participation.

Although, as noted, the comparison of pre- and post-training income is a weaker measure of the impact of training than the comparison between participants and the control group, it does reflect some interesting points about the interaction between earnings and the economy. There may have been other contributing factors, but the factor which probably dominates the explanation of why the second group has a smaller pre- to post-training income increase was the relative weakness of the state's economy at the end of 1980. In the third quarter of 1979, the Kansas unemployment rate was approximately 3.0 percent; in the fourth quarter of 1980, that rate was about 4.25 percent, an increase of nearly 50 percent. The national unemployment rate showed the same pattern of increase at this time. CETA's target group—workers just entering or at the margin of the labor force—experience extreme employment consequences when the economy experiences only a mild decline.

The evaluation of CETA's impact relative to the control group is more meaningful than the pre-post evaluation. Control group evaluation results can be interpreted as a measure of the difference in the participants' earnings **due to their participation in CETA,** whereas the pre-post results reflect differences in participants' earnings **due to CETA and every other event in their lives.** For managerial purposes, the impact due to CETA is the more relevant item to measure.

Table 1 shows that the pre-CETA earnings of participants were $2,253 while the post earnings of the control group were $2,798. Since the control group persons were selected because they were like the pre-CETA participants, it follows by inference that control group members increased their earnings by $545 without the benefit of CETA.

Table 2 reveals that pre-CETA earnings were $2,429 while post-CETA control group earnings were only $1,889. Using the reasoning above, it can be calculated that control group earnings fell by $540. In contrast, post-CETA earnings increased $742. CETA participants experienced a $742 increase in earnings instead of the $540 decrease they would have experienced had they not entered CETA.

This evidence clearly shows that, relative to what people would have earned had they not been in CETA, the impact of CETA overall on earnings is 62.9 percent in 1979 and 67.8 percent in 1980. Returns for demographic groups range from a high of 617 percent for the special disabled veterans to a low of 19.4 percent for all veterans. Generally, the very high returns to CETA occur in categories where there are few participants or control group members. There were only 24 special disabled veteran participants and only 3 control group members. Obviously, these small numbers prohibit inferring much about success: there should be at least 20 participants and at least 20

**The CETA participants earned 62.9 percent more than the untrained control group. As well, the average annual earnings for all participants after training were 102.3 percent greater than their average annual earnings prior to participation.**

control group members in a category before making inferences about program effect.

In the fourth quarter of 1979, there were positive impacts of CETA for all groups except three: Blacks, American Indians, and the special disabled veterans. Since there were very few control group members for American Indians and the veterans, the negatives there are meaningless. The negative for Blacks occurs with 89 CETA participants and 63 control group members. Certainly, a pressing need exists to examine why this group did not benefit.

Overall, the evaluation of CETA relative to the control group is quite favorable and consistent over time. It is particularly noteworthy that women (103.6 percent, 85.7 percent), Hispanics (54.7 percent, 52.7 percent), and older workers (276.5 percent, 69.1 percent) consistently experienced quite substantial positive earnings impacts.

Tables 3 and 4 are tabulations of pre-post earnings gain by detailed participant characteristic. No control group data are presented because the record system for the control group contains less data than does the CETA record system. The tables are, thus, most useful for across-group comparisons of relative impact and not for assessment of absolute impact. This means that the negative signs in these two tables should be disregarded.

Of special importance is the magnitude of the percent difference for those receiving AFDC (Aid for Families with Dependent Children): 128.2 percent in 1979 and 14.8 percent in 1980. The five displaced homemakers in 1979 had an earnings reduction of 8.1 percent, but, in 1980, the 62 who participated had a gain of 93.3 percent. AFDC recipients did better than the average, 102.3 percent, in 1979 and worse than the average, 30.5 percent in 1980.

Displaced homemakers had the opposite experience: worse than the average gain in 1979 and better than the average gain in 1980. It behooves the program manager to examine these volatile program components and determine whether the change in outcome is due to program, participant, or economic climate change.

Table 5 considers CETA cost savings by activity and Table 6 by training *Dictionary of Occupational Titles* (DOT) code. According to Table 5, the state in 7.14 years will receive back through state taxes, sales taxes, and savings the $106,201 spent on these participants. This means that 14 percent of the CETA direct expenditure was returned in the first year after leaving CETA. The first line of Table 5 shows that CETA's direct cost for 117 participants was $106,201. The year after CETA training, these individuals earned $721,755. This amount was $125,718 more than they earned in the year prior to entering CETA. On this $125,718, they paid Kansas state income and local sales taxes of $6,871. The welfare saved column is zero only because no historical welfare payment data were made available. In the year after CETA, they also received $8,876

## Table 3
## CETA Impact Study: More Detailed Analysis (1979)

| Characteristics | | CETA Count | Pre-CETA Average Annual Earnings | Post-CETA Average Annual Earnings | Percent Difference |
|---|---|---|---|---|---|
| Public Assist. | Receiving AFDC | 109 | $1,570 | $3,583 | 128.2% |
| | Receiving SSI | 8 | 1,602 | 1,617 | .9 |
| | Total Rec. Pub. Asst. | 115 | 1,599 | 3,508 | 119.3 |
| Economic Status | Under .71 of LLSIL | 1,383 | 2,254 | 4,550 | 102.1 |
| | .71-.85 of LLSIL | 0 | 0 | 0 | — |
| | .86-1.00 of LLSIL | 0 | 0 | 0 | — |
| | Above 1.00 of LLSIL | 1 | 960 | 7,253 | 655.5 |
| Economically Disadvantaged | | 1,336 | 2,168 | 4,465 | 105.9 |
| Family Status | Single Parent | 472 | 2,723 | 5,224 | 91.8 |
| | Parent 2 Par. Family | 75 | 2,713 | 4,914 | 81.1 |
| | Other Family Member | 346 | 1,644 | 3,699 | 124.9 |
| | Non-Dependent Person | 491 | 2,160 | 4,468 | 106.8 |
| Race or Ethnic Group | White (not Hispanic) | 1,104 | 2,404 | 4,842 | 101.4 |
| | Black (not Hispanic) | 180 | 1,412 | 3,002 | 112.6 |
| | Hispanic | 53 | 1,842 | 4,910 | 166.5 |
| | Amer. Ind.-Alaskan | 36 | 2,815 | 2,575 | − 8.5 |
| | Asian or Pac. Island | 11 | 973 | 6,287 | 546.0 |
| Limited English Speaking | | 37 | 1,879 | 4,377 | 132.9 |
| Migrant/Seasonal Farm Worker | | 6 | 2,293 | 3,576 | 55.9 |
| Veteran Group | Veteran | 283 | 3,158 | 4,856 | 53.8 |
| | Vietnam (Under 35) | 102 | 3,614 | 5,696 | 57.6 |
| | Special Disabled | 24 | 4,244 | 5,478 | 29.1 |
| Handicapped | | 101 | 3,362 | 5,212 | 55.0 |
| Offender | | 427 | 1,845 | 3,775 | 104.6 |
| Displaced Homemaker | | 5 | 2,392 | 2,199 | − 8.1 |
| Labor Force Status | In School | 77 | 836 | 3,745 | 347.7 |
| | Underemployed | 56 | 3,136 | 5,795 | 84.7 |
| | Unemployed | 826 | 2,550 | 4,971 | 94.9 |
| | Other | 425 | 1,816 | 3,739 | 105.9 |
| Unemployment Insurance Claimed | | 236 | 4,457 | 5,617 | 26.0 |
| Unemployed 15 Weeks or More | | 549 | 2,090 | 4,760 | 127.7 |

## Table 4
## CETA Impact Study: More Detailed Analysis (1980)

| Characteristics | | CETA Count | Pre-CETA Average Annual Earnings | Post-CETA Average Annual Earnings | Percent Difference |
|---|---|---|---|---|---|
| Public Assist. | Receiving AFDC | 126 | $2,212 | $2,539 | 14.8% |
| | Receiving SSI | 12 | 2,410 | 2,129 | − 11.7 |
| | Total Rec. Pub. Asst. | 161 | 2,227 | 2,902 | 30.3 |
| Economic Status | Under .71 of LLSIL | 769 | 2,342 | 3,151 | 34.6 |
| | .71-.85 of LLSIL | 11 | 4,973 | 4,115 | − 17.3 |
| | .86-1.00 of LLSIL | 6 | 1,505 | 3,944 | 162.1 |
| | Above 1.00 of LLSIL | 25 | 4,219 | 3,168 | − 24.9 |
| Economically Disadvantaged | | 797 | 2,416 | 3,177 | 31.5 |
| Family Status | Single Parent | 193 | 2,541 | 2,967 | 16.7 |
| | Parent 2 Par. Family | 165 | 3,093 | 3,940 | 27.4 |
| | Other Family Member | 145 | 1,347 | 2,431 | 80.4 |
| | Non-Dependent Person | 308 | 2,513 | 3,235 | 28.7 |
| Race or Ethnic Group | White (not Hispanic) | 650 | 2,585 | 3,455 | 33.6 |
| | Black (not Hispanic) | 89 | 1,878 | 1,715 | − 8.7 |
| | Hispanic | 37 | 1,615 | 2,329 | 44.2 |
| | Amer. Ind.-Alaskan | 22 | 1,562 | 1,538 | − 1.6 |
| | Asian or Pac. Island | 13 | 2,191 | 4,108 | 87.5 |
| Limited English Speaking | | 13 | 2,191 | 4,108 | 87.5 |
| Migrant/Seasonal Farm Worker | | 8 | 3,096 | 1,578 | − 49.0 |
| Veteran Group | Veteran | 144 | 3,381 | 4,361 | 29.0 |
| | Vietnam (Under 35) | 58 | 3,867 | 5,203 | 60.4 |
| | Special Disabled | 5 | 637 | 2,530 | 297.1 |
| Handicapped | | 74 | 3,158 | 4,069 | 28.8 |
| Offender | | 162 | 1,950 | 1,785 | − 8.4 |
| Displaced Homemaker | | 62 | 1,787 | 3,456 | 93.3 |
| Labor Force Status | In School | 44 | 1,146 | 3,017 | 163.3 |
| | Underemployed | 37 | 2,777 | 4,252 | 53.1 |
| | Unemployed | 560 | 2,671 | 3,451 | 29.2 |
| | Other | 170 | 1,889 | 2,091 | 8.6 |
| Unemployment Insurance Claimed | | 182 | 4,903 | 3,533 | − 27.9 |
| Unemployed 15 Weeks or More | | 354 | 2,434 | 3,359 | 38.0 |

less in unemployment compensation than in the year prior to entering CETA. This reduction in unemployment insurance payments plus the increase in tax receipts totaled $15,747.

As stated above, these calculations are based on pre-post income comparisons and have the weaknesses discussed earlier. In this context, it appears from Table 5 that every investment the CETA program made was a good one. The best investment was in work experience with the direct investment returned in 1.64 years. The average participant earned enough so that the state treasury was compensated for his/her training cost in 2.86 years.

Table 6 shows that the order of program success has changed. In the bleaker economic climate, on-the-job training and classroom training had the shortest payback periods: 12.5 years, and, even in this depressed era, every single activity had a positive payback. The overall payback was in 16.67 years with an annual investment return of 6.0 percent.

Tables 7(1979) and 8(1980) show these same figures by specific training occupation. Training individuals to be carpenters yielded a negative return in both years: − 20 percent in 1980 and − 1.0 percent in 1979. On the other hand, secretarial training produced a 28 percent return in 1979 and an 8.0 percent return in 1980. By examining relative returns across occupations, program operators should be able to determine where best to focus their efforts.

It is noteworthy that the 1979 and 1980 returns are positive even though welfare savings are omitted. Given the apparent success of WIN (Work Incentive Program) in reducing welfare grants, one would exepct the inclusion of welfare savings to make the return from CETA even more dramatic.

## Summary

The ultimate goal of employment and training programs is to improve some dimension of the participants' economic lives. Current systems are not generally oriented to supplying information which permits managers to assess such program impact. They are, instead, oriented toward the program efficiency measures which are required by federal regulation.

This paper suggests that information systems should be converted into decision-support systems which would permit administrators to make managerial decisions based upon program impact information. Such an evaluation/decision support system has been implemented by the authors which combined existing CETA prime sponsor information with the information maintained by state Job Service and Unemployment Insurance agencies. Through this combination of data systems, a low-cost/decision-support system was developed which the agency itself can maintain.

Once in place, the findings of the evaluation system were very positive in respect to the programs' impact upon both the participants' income and the return-of-cost to the state. On

**If CETA in Kansas is to be viewed as a welfare program, then "welfare" should be interpreted as benefit accruing not only to the participants served by the programs but also to the public (which supports them) in the form of increased revenue from state income and sales taxes, lowered unemployment insurance payouts, and a better trained, more productive labor force.**

average, the two-quarter studies showed that trainees earned approximately 65 percent more than those not trained and that the state's investment in training costs will be returned in seven years. The inescapable conclusion of the studies' results is that CETA programs prove to be sound, cost-effective investments for the state. If they are to be viewed as welfare programs, then "welfare" should be interpreted as benefit accruing not only to the participants served by the programs but also to the public (which supports them) in the form of increased revenue from state income and sales taxes, lowered unemployment insurance payouts, and a better trained, more productive labor force.

## Table 5
## CETA Impact Study: Cost Savings Comparisons by CETA Activity (1979)

| CETA Activity | Client Count | Total CETA Dollars Spent | Post CETA Earnings | Increase in Spending for Goods & Services | Increase in Tax Revenue & Sales Tax | Welfare Saved | Unemploy-Ment Saved | Reduction in Spending + Increased Gov. Income | % Expend. Saved in 1 Year | Years til Exp. Returns |
|---|---|---|---|---|---|---|---|---|---|---|
| On-the-Job Training | 117 | $106,201 | $ 721,755 | $ 125,718 | $ 6,871 | $0 | $ 8,876 | $ 15,747 | 14.0% | 7.14 |
| Public Service Employ. | 294 | 162,901 | 1,520,284 | 490,617 | 25,874 | 0 | 46,221 | 72,095 | 44.0 | 2.27 |
| Classroom Training | 387 | 77,310 | 1,923,203 | 712,075 | 36,187 | 0 | 3,083 | 39,270 | 50.0 | 2.00 |
| Work Experience | 39 | 5,095 | 129,527 | 40,583 | 2,002 | 0 | 1,123 | 3,125 | 61.0 | 1.64 |
| Summer Youth | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Combined Activities | 81 | 41,287 | 414,984 | 221,937 | 10,801 | 0 | – 2,735 | 6,066 | 19.0 | 5.26 |
| Total Balance of State | 918 | 392,794 | 4,709,753 | 1,590,930 | 81,735 | 0 | 56,568 | 138,303 | 35.0 | 2.86 |

## Table 6
## CETA Impact Study: Cost Savings Comparisons by CETA Activity (1980)

| CETA Activity | Client Count | Total CETA Dollars Spent | Post CETA Earnings | Increase in Spending for Goods & Services | Increase in Tax Revenue & Sales Tax | Welfare Saved | Unemploy-Ment Saved | Reduction in Spending + Increased Gov. Income | % Expend. Saved in 1 Year | Years til Exp. Returns |
|---|---|---|---|---|---|---|---|---|---|---|
| On-the-Job Training | 35 | $111,561 | $ 364,912 | – $ 24,252 | $ 353 | $0 | $ 9,415 | $ 9,766 | 8.0% | 12.50 |
| Public Service Employ. | 142 | 331,090 | 447,536 | – 123,130 | – 3,374 | 0 | 23,953 | 20,579 | 6.0 | 16.67 |
| Classroom Training | 219 | 354,688 | 738,448 | – 34,745 | 1,144 | 0 | 27,923 | 29,067 | 8.0 | 12.50 |
| Work Experience | 18 | 14,846 | 21,392 | – 19,333 | – 627 | 0 | – 666 | – 1,293 | – 8.0 | |
| Summer Youth | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Combined Activities | 59 | 114,997 | 226,296 | 29,582 | 2,077 | 0 | 3,530 | 5,607 | 4.0 | 25.00 |
| Total Balance of State | 522 | 927,482 | 1,798,584 | – 171,878 | – 427 | 0 | 64,155 | 63,728 | 6.0 | 16.57 |

**Tables 7 and 8 follow on pages 8 and 9.**

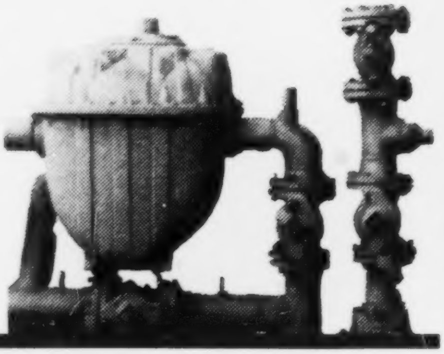
## Table 7
## CETA Impact Study: Cost Savings Comparisons by Training Occupations (1979)

| Training Occupations DOT | Description | Client Count | Total CETA Dollars Spent | Post CETA Earnings | Increase in Spending for Goods & Services | Increase in Tax Revenue & Sales Tax | Welfare Saved | Unemployment Saved | Reduction in Spending + Increased Gov. Income | % Expend. Saved in 1 Year | Years til Exp. Returned |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 637 | Repair-Utilities Service | 69 | $ 1,260 | $ 342,390 | $ 87,542 | $ 4,368 | $0 | – $5,068 | $ – 700 | – 55.0% | |
| 860 | Carpenter | 44 | 2,205 | 171,099 | 44,393 | 2,259 | 0 | – 2,717 | – 458 | – 20.0 | |
| 079 | Medical-N.E.C. | 43 | 30,914 | 318,959 | 148,074 | 7,630 | 0 | 3,362 | 10,992 | 35.0 | 2.86 |
| 620 | Repair-Vehicle, Eng. Equip | 27 | 3,092 | 122,534 | 35,776 | 1,839 | 0 | 4,732 | 6,571 | 212.0 | .47 |
| 819 | Welders, Cutters-N.E.C. | 27 | 3,945 | 136,255 | 64,609 | 3,189 | 0 | 1,314 | 4,503 | 114.0 | .88 |
| 279 | Sales-Other Com.-N.E.C. | 20 | 0 | 87,126 | 39,645 | 1,910 | 0 | 1,190 | 3,100 | | |
| 659 | Printing-N.E.C. | 19 | 0 | 77,427 | 30,816 | 1,464 | 0 | – 612 | 852 | | |
| 720 | Occu.-Radio, TV, Phono. | 17 | 0 | 79,803 | 30,776 | 1,661 | 0 | 1,456 | 3,117 | | |
| 899 | Structural Work-N.E.C. | 12 | 7,295 | 71,259 | 31,125 | 1,597 | 0 | – 1,493 | 104 | 1.0 | 100.00 |
| 195 | Social, Welfare | 11 | 6,365 | 69,621 | 26,659 | 1,350 | 0 | 4,946 | 6,296 | 98.0 | 1.02 |
| 201 | Secretary | 11 | 5,791 | 65,052 | 37,149 | 1,802 | 0 | – 172 | 1,630 | 28.0 | 3.57 |
| 332 | Hairdresser, Cosmetologist | 11 | 8,940 | 39,446 | 8,136 | 447 | 0 | – 250 | 197 | 2.0 | 50.00 |
| 381 | Porter, Cleaner | 10 | 1,336 | 70,276 | 42,208 | 2,119 | 0 | – 1,789 | 380 | 28.0 | 3.57 |
| 869 | Construction Occu.-N.E.C. | 9 | 6,797 | 40,131 | 18,373 | 879 | 0 | 1,097 | 1,976 | 29.0 | 3.45 |
| 929 | Package. Mat. Hand.-N.E.C. | 9 | 4,281 | 56,961 | 30,462 | 1,525 | 0 | 463 | 1,988 | 46.0 | 2.17 |
| 166 | Personnel Administration | 8 | 5,785 | 68,235 | 42,088 | 2,088 | 0 | 2,642 | 4,730 | 81.0 | 1.23 |
| 804 | Tinsmith, Coppersmith | 8 | 9,423 | 52,448 | 20,359 | 1,092 | 0 | – 744 | 348 | 3.0 | 33.33 |
| 205 | Clerk-Interviewer | 7 | 5,022 | 52,111 | 20,494 | 964 | 0 | 7,884 | 8,848 | 176.0 | .57 |
| 209 | Steno, Typing, File-N.E.C. | 7 | 1,444 | 28,593 | 15,627 | 750 | 0 | – 1,235 | – 485 | – 33.0 | |
| 099 | Educ.-N.E.C. | 6 | 4,896 | 43,307 | 28,142 | 1,379 | 0 | 2,522 | 3,901 | 79.0 | 1.21 |
| 187 | Mgr.-Services | 6 | 3,568 | 39,061 | 19,220 | 893 | 0 | 1,781 | 2,674 | 74.0 | 1.35 |
| 311 | Waiter, Waitress | 6 | 697 | 7,918 | – 7,192 | – 288 | 0 | 0 | – 288 | – 41.0 | |
| 600 | Machinist | 6 | 1,640 | 52,679 | 4,640 | 226 | 0 | 0 | 226 | 13.0 | 7.69 |
| 045 | Occu.-Psychology | 4 | 4,045 | 27,936 | 20,574 | 1,045 | 0 | – 1,520 | – 475 | – 11.0 | |
| 203 | Typist | 4 | 2,728 | 30,086 | 15,379 | 861 | 0 | 0 | 861 | 31.0 | 3.23 |
| 210 | Bookkeeper | 4 | 1,880 | 24,748 | 9,724 | 510 | 0 | 478 | 988 | 52.0 | 1.92 |
| 249 | Misc. Clerical-N.E.C. | 4 | 1,092 | 13,407 | 4,717 | 195 | 0 | 104 | 299 | 27.0 | 3.70 |
| 372 | Security, Correction Card | 4 | 4,087 | 15,845 | 3,937 | 183 | 0 | 0 | 183 | 4.0 | 25.00 |
| 807 | Body Worker-Trans. Equip. | 4 | 2,290 | 26,638 | 13,524 | 703 | 0 | 420 | 1,123 | 49.0 | 2.04 |
| 905 | Truck Driver-Heavy | 4 | 2,256 | 20,633 | – 3,473 | – 220 | 0 | – 248 | – 468 | – 20.0 | |
| | Other DOTS | 121 | 66,573 | 777,745 | 384,397 | 19,262 | 0 | 18,862 | 38,124 | 57.0 | 1.75 |
| | Total Balance of State | 542 | 199,647 | 3,029,729 | 1,267,900 | 63,682 | 0 | 37,455 | 101,187 | 50.0 | 2.00 |

## Table 8
## CETA Impact Study: Cost Savings Comparisons by Training Occupations (1980)

| Training Occupations DOT | Description | Client Count | Total CETA Dollars Spent | Post CETA Earnings | Increase in Spending for Goods & Services | Increase in Tax Revenue & Sales Tax | Welfare Saved | Unemployment Saved | Reduction in Spending + Increased Gov. Income | % Expend. Saved in 1 Year | Years til Exp. Returned |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 201 | Secretary | 19 | $ 50,324 | $ 84,628 | $ 11,392 | $ 866 | $0 | $ 3,344 | $ 4,210 | 8.0% | 12.50 |
| 869 | Construction Occu.-N.E.C. | 15 | 26,968 | 92,136 | 42,886 | 2,259 | 0 | 942 | 3,201 | 11.0 | 9.09 |
| 079 | Medical-N.E.C. | 12 | 68,468 | 78,382 | 36,739 | 1,952 | 0 | 0 | 1,952 | 2.0 | 50.00 |
| 860 | Carpenter | 12 | 18,063 | 29,532 | – 22,379 | – 974 | 0 | 661 | – 313 | – 1.0 | |
| 313 | Chef, Cook | 11 | 3,257 | 33,756 | – 3,412 | – 150 | 0 | 738 | 588 | 18.0 | 5.56 |
| 209 | Steno, Typing, File-N.E.C. | 9 | 17,496 | 31,344 | – 7,029 | – 200 | 0 | 1,162 | 962 | 5.0 | 20.00 |
| 819 | Welders, Cutters-N.E.C. | 8 | 2,683 | 26,528 | 8,641 | 506 | 0 | 0 | 506 | 18.0 | 5.56 |
| 905 | Truck Driver-Heavy | 8 | 12,208 | 6,240 | – 17,808 | – 772 | 0 | 1,350 | 678 | 4.0 | 25.00 |
| 203 | Typist | 7 | 15,898 | 47,276 | 21,749 | 1,067 | 0 | 2,715 | 3,782 | 23.0 | 4.35 |
| 620 | Repair-Vehicle, Eng. Equip. | 7 | 22,952 | 24,940 | 115 | 235 | 0 | – 692 | – 457 | – 1.0 | |
| 637 | Repair-Utilities Service | 7 | 4,028 | 35,236 | – 1,621 | – 24 | 0 | 64 | 40 | .0 | .00 |
| 929 | Package. Mat. Hand. -N.E.C. | 7 | 14,410 | 39,136 | 9,444 | 515 | 0 | 2,810 | 3,325 | 23.0 | 4.35 |
| 210 | Bookkeeper | 6 | 21,737 | 17,360 | – 49,892 | – 2,447 | 0 | 1,156 | – 1,291 | – 5.0 | |
| 355 | Hospital, Morgue Attend. | 5 | 2,186 | 2,356 | – 12,177 | – 480 | 0 | – 10 | – 490 | – 22.0 | |
| 899 | Structural Work-N.E.C. | 5 | 16,619 | 10,980 | – 11,736 | – 480 | 0 | 2,892 | 2,412 | 14.0 | 7.14 |
| 195 | Social, Welfare | 4 | 11,807 | 12,432 | – 2,722 | – 53 | 0 | 2,230 | 2,177 | 18.0 | 5.56 |
| 279 | Sales-Other Com.-N.E.C. | 4 | 2,550 | 1,940 | – 3,446 | – 129 | 0 | 0 | – 129 | – 5.0 | |
| 332 | Hairdresser, Cosmetologist | 4 | 25,271 | 17,576 | 6,637 | 375 | 0 | 0 | 375 | 1.0 | 100.00 |
| 211 | Cashier, Teller | 3 | 3,487 | 23,436 | 16,405 | 795 | 0 | 560 | 1,355 | 38.0 | 2.63 |
| 219 | Computer, Acctg.-N.E.C. | 3 | 8,483 | 20,452 | – 3,953 | – 243 | 0 | 3,642 | 3,399 | 40.0 | 2.50 |
| 222 | Clerk-Ship, Rec., Stock | 3 | 167 | 17,504 | 11,022 | 650 | 0 | 1,052 | 1,702 | 1019.0 | .10 |
| 318 | Kitchen Worker | 3 | 3,343 | 6,276 | 1,846 | 80 | 0 | 420 | 500 | 14.0 | 7.14 |
| 382 | Janitor | 3 | 0 | 4,884 | – 15,228 | – 735 | 0 | 0 | – 735 | | |
| 410 | Domestic Animal Farming | 3 | 8,274 | 11,468 | 1,543 | 167 | 0 | 2,051 | 2,218 | 26.0 | 3.85 |
| 807 | Body Worker-Trans. Equip. | 3 | 9,716 | 19,340 | 7,745 | 461 | 0 | 1,072 | 1,533 | 15.0 | 6.67 |
| 075 | Registered Nurse | 2 | 17,258 | 23,944 | 14,218 | 768 | 0 | 0 | 768 | 4.0 | 25.00 |
| 180 | Administrative-N.E.C. | 2 | 7,820 | 7,376 | – 1,441 | – 26 | 0 | 0 | | | .00 |
| 215 | Clerk-Payroll, Timekeeper | 2 | 5,556 | 13,588 | 4,861 | 245 | 0 | 860 | 1,105 | 19.0 | 5.26 |
| 237 | Clerk-Info. Reception | 2 | 8,500 | 14,532 | 12,079 | 564 | 0 | 100 | 664 | 7.0 | 14.29 |
| 239 | Info. Message-N.E.C. | 2 | 5,147 | 4,908 | – 2,838 | – 107 | 0 | 1,632 | 1,525 | 29.0 | 3.45 |
| | Other DOTS | 77 | 173,763 | 355,908 | 74,196 | 5,018 | 0 | 10,463 | 15,481 | 8.0 | 12.50 |
| | Total Balance of State | 258 | 588,459 | 1,115,396 | 125,836 | 9,703 | 0 | 41,214 | 50,917 | 8.0 | 12.50 |

# The Residential Energy User: Spendthrift or Saver?



**Rather than begin with the premise that consumers are irrational, I would leave to the critics of consumer sensibility to show that there is, indeed, some defect in the behavior of the typical consumer in his or her use of energy.**

**Douglas Houston**

**Dr. Douglas Houston is an Assistant Professor of Business Economics in the KU School of Business. Professor Houston received his D.B.A. from the University of Indiana in 1980. His areas of interest include energy economics and public policy, about which he has published several reports and articles.**

## Introduction

Discussions about energy conservation are no longer conducted in the fervent, often moralistic tones that prevailed only a few years ago, and, in turn, one might speculate that consumers' use of energy may accede again to the old, spendthrift ways. An examination of this proposition is especially appealing now for two reasons. First, the diminished heat of rhetoric on the issue allows the evidence of consumer performance to stand out—whereas before, the perceived urgency of coming up with quick "fixes" for various energy "crises" dominated the debate. Second, the recent decline in gasoline prices and the passage of time since our last energy-supply disruption have led many academic and political observers to suggest a sharp resurgence in energy consumption.

While basic economic theory suggests that an increase in consumption will result from lower prices, the issue that concerns observers is a bit more complex. For instance, many analysts argue that consumers suffer from short-sightedness and, with the extreme political volatility in the major oil-producing areas of the world, that we are digging ourselves into a hole as we wipe out the meager conservation gains of the 1970s. The next step in this reasoning proposes mandated limits on consumer energy use or increases in the cost of energy to further the cause of conservation. This line of thought was evident in several presentations at a recent regional energy conference in Kansas City, Kansas.[1]

This short article examines the behavior of residential energy consumers by referring to the results of studies that I have been involved with in Indiana and empirical findings of other researchers, and it is reasonable to assume that, in general, the findings of these studies are applicable to nonmetropolitan areas in Kansas.[2] At the very least, it makes considerable sense in order to envision our energy future to understand our energy-consuming past—both during periods of relative calm in energy supply and during periods of turmoil. Such evidence as drawn from these studies may give us some practical guidelines about consumers' behavior under varying circumstances.

In particular, this evidence should help to answer certain significant questions about consumer consumption of energy: Are consumers muddleheaded about expected supply difficulties, are they unresponsive or very slow to respond to information, and are they unable to put together intelligent energy programs for their households? The magnitude and speed of response are important considerations. If we are struck by another disruption in energy supplies (and many experts strongly suggest that we probably will be before 1990), the ability of the residential sector to substitute fuels or to abstain from consumption can soften the effects upon the total economy.

Of course, consumers, no less than Washington policymakers, are aware of the dangers in making long-term commitments to a rigid energy-consumption pattern. It is in the consumer's self interest to consider the total cost of an activity. In many cases, energy is consumed jointly with the services of long-lived durable assets (for example, automobiles or household appliances). Thus, it is quite sensible for a household or business to speculate about the future prices and availability of various forms of energy prior to the purchase of new energy-consuming durables. Because it is so costly to make gross errors of judgment, consumers might be expected to be not only curious, but quite acquisitive toward information about energy's future course. Further, consumers might be expected to use that information wisely in their decisions.

Therefore, rather than begin with the premise that consumers are irrational, I would leave to the critics of consumer sensibility to show that there is, indeed, some defect in the behavior of the typical consumer in his or her use of energy.

## Findings

**Very little evidence concerning consumers' use of energy would suggest that a major defect exists.** In a consumer survey conducted in rural Indiana counties in 1979, we[3] discovered a remarkable recognition of the various energy supply-side risks by many respondents. A cautious, skeptical attitude prevailed. Individuals were often able to detail specific strategies employed to reduce risks. The various strategies depended upon regional opportunities to find alternatives to a single fuel, the characteristics of the household, and the ingenuity of the consumer.

One particularly popular strategic investment was the purchase of a back-up heating system which used an energy source with some assurance of continued availability. In most cases, this alternate was an airtight wood stove. In fact, wood stoves were the third most common form of heat. Nineteen percent of over 3,000 respondents used them, and, in some areas where wood was available at low cost, the figure went as high as 39 percent. Many households considered wood to be their primary heating source. Quite clearly, having this "portfolio" of energy sources in the home provides the household with the flexibility to rapidly decrease the use of one fuel under unfavorable conditions and, therefore, testifies to the vigilance of Indiana consumers. I would expect that much the same pattern exists in some areas of nonmetropolitan Kansas where reasonable wood supplies are at hand. Having this dual heating source base (much of which was not there in the period immediately following the OPEC embargo and price hikes of 1973-74) gives the economy a bit of a cushion from an unexpected interruption in a single-fuel source.

Consumers also indicated that they had gone quite a ways toward making their homes less energy consumptive. Aside from the many obvious insulating tasks undertaken, over half of the survey respondents closed off one or more rooms during the winter to reduce heating bills. Interestingly, our survey in 1979 showed a particular lack of interest in solar technologies. This position appears to have been a practical one. Retrofitting of existing homes with solar devices was probably not a good investment for most homes. Designing new residential structures with passive solar properties, on the other hand, often yields greater conservation benefit at low cost and will slowly move ahead in the 1980s.

The survey also showed that the structure of energy demand by residences can vary considerably among households. The ways energy is used and the capability of changing that pattern depend greatly upon the current stocks of energy-using appliances in the home. Stock characteristics will often be quite different not just among states, but often among counties. In the Indiana demand study, no more than a few counties could be considered to have the same demand for electricity properties, reflecting dissimilar historical accumulations of electricity-using stocks. Often these discrepancies are the result of long-term differences in fuel availability and prices. In practice, they suggest that, faced with new opportunities (lower energy prices) or threats (higher energy prices or supply interruptions), some regions within the state will make larger and/or quicker responses than others.

A tentative conclusion from examining consumer behavior in a nonmetropolitan region from 1965 through 1979[4] is that the petroleum crisis of 1973-74 led to some fundamental restructuring of how consumers viewed various energy forms. In particular, the shaken confidence of households in the availability of low-cost petroleum may have stimulated a shift toward electricity usage. In those nonmetropolitan areas of Indiana where I examined residential demand, electricity is generated with coal, a domestically secure fuel. The relative increase in long-term security, coupled with the development of better heat pump systems, may have led to added respect for electricity. Because Kansas' electricity generation is dominated by domestically secure fuels (unlike some unfortunate eastern utilities running on fuel oil), it would seem probable that a shift in preference toward electricity has occurred here, too. While this new dependency may lead to further difficulties for beleaguered electric utilities in coping with changing demand characteristics, the greater reliance on electricity reduces our dependence on relatively unsecured petroleum.

Also of note from my study over the years 1966-1979 were the sensitivities by consumers to electricity prices and the speed at which they responded to price changes. As with many other studies of residential consumers, long-run price elasticity was generally found to be in the "inelastic" range—on average about −0.9, meaning (approximately) that a 1.0 percent increase in the price of electricity will lead to an eventual decline of 0.9 percent in the rate of usage. The question then arises: How long does it take for these conservation results to occur? Clearly, it cannot be immediate (for electricity or any other single-energy source) because many major adjustments require altering the durable stocks that use the energy. However, the study suggested that consumers can make well over 90 percent of their adjustments in two or three years.

While these results may overstate the speed of response, the evidence that consumers aggressively work at energy conservation is strong. This view hardly conforms with that painted by current critics who characterize the individual energy user as do-nothing or reactive and who suggest that we "rein in" consumers now, during this unusual period of relative energy slack, before they go on an orgy of excessive energy consumption.

In Kansas, such critics might wonder if consumers will succumb to what many see as an illusion of energy stability and react to lower current energy prices by making unsound investments (bigger cars or more household appliances). No doubt, state consumers will increase their use of energy in response to falling current prices. For example, we shall certainly see a pickup in mileage of passenger vehicles as families take longer vacations. But such behavior is rational, short-run behavior—consumption determined from a given set of energy-using goods—and this increase in use does not bode a collapse of concern for future difficulties with energy. One should consider that the continued depressed demand for automobiles is probably due, in part, to consumer caution.

**The evidence that consumers work aggressively at energy conservation is strong.**

## Conclusion

Consumers in the 1970s have demonstrated that they not only reacted rationally to the period's ups and downs of energy prices but that they also used expectation about future supply problems as inputs to their individual energy conservation programs. In other words, individuals have been using information about expected long-term availability and price to moderate their major investments in energy-consuming durables. To be sure, consumers may be quite "wrong" about the future—just like any energy czar or planner. However, a major advantage to allowing consumers to make their own mistakes on energy consumption is that they act out of recognition that their own economic well-being is at stake; a healthy dose of self interest makes each individual and household "planner" a careful one. Indeed, the softness of petroleum prices today results partially from the ability of American consumers to effectively and quickly carry out such programs in the past. **Were we faced with another petroleum supply crisis of the magnitude of the 1973-74 situation, I believe that the impact upon consumers would be less harsh because consumers have given themselves more energy options (dual sourcing) and are continuing to switch, where possible, away from petroleum.** Perhaps as important as the added physical stock flexibility is the "flex" built into people themselves. Unlike 1973-74, when few people were well informed about various energy options and were strongly locked into a particular pattern of energy use, today's consumer has far more information and options to consider should another energy crisis occur. And possibly even more important is that significant evidence exists that consumers are presently more responsive and ready to alter their energy use behavior.

But having recognized that rational, voluntary consumer responses and not government energy programs helped bring us far from the precipice we were positioned on in 1974, there are still calls for various restrictions upon the consumer. It has been suggested—only partly in jest—that much government policy is necessarily predicated upon illusion, since dealing with realistic objectives would doom policy to small-scale or negative payoffs. One can only hope that the very remarkable past performance of consumers in responding to complex energy-use issues is not disregarded as future energy policy is developed.

**Many analysts argue that consumers suffer from short-sightedness and, with the extreme political volatility in the major oil-producing areas of the world, that we are digging ourselves into a hole as we wipe out the meager conservation gains of the 1970s.**

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**Footnotes**

1. "Energy Conference. '82," March 26, 1982, at the Constitution Convention Center, Kansas City, Kansas. Congressman Larry Winn, Jr. served as chairman/moderator.

2. Since the reference to past research is only to make general arguments about the behavior of consumers and not to suggest that the specific parameters of demand for energy in Kansas are the same or similar to another region, the drawing of parallels seems reasonable.

3. The "1979 Residential Energy Survey" was undertaken for Hoosier Energy and its 18-member Electric Cooperatives. The Project director was Bruce L. Jaffee, Associate Professor, Indiana University.

4. The discussion below is taken, in part, from my dissertation, *An Empirical Investigation of Residential Electricity Demand: A Time Series Analysis*, at Indiana University.

## In the next issue of *Kansas Business Review:*

- The Changing Structure of the Kansas Farm
- Migration Patterns to and from Kansas
- Economic Conditions—The Past and Present Performance of the National and State Economies; the Outlook for the Summer and Fall
- Economic Indicators

# Economic Conditions

## The National Review

As they have for the past few months, the same questions continue to occupy the thoughts of economists: When will the recession end? Has it already bottomed-out? Several forecasters thought they detected an upturn in the economy during February and were quick to proclaim that the downturn had reached its nadir in January. However, a spate of bad economic news from March raised the possibility that this group was premature in calling the turn.

This unexpected renewal of weakness in the economy has caused forecasters, as a group, to become more pessimistic. Most are now calling for a relatively flat second quarter with real recovery not taking place until July. This date coincides with the implementation of phase two of the tax-cut package and with the installation of cost-of-living increases for social security recipients. These injections of spendable income are being counted upon to spark a period of growth during the second half of the year.

The strength of recovery will hinge upon reductions in interest rates, which many feel will depend upon the magnitude of government deficit financing. Analysts are expressing concern that the combination of a tight credit policy by the Federal Reserve plus a high level of demand-side pressure from government deficit financing will cause interest rates to remain high and choke off recovery.

A sampling of the latest data does, indeed, suggest that the weakness which has afflicted the economy since the third quarter of last year still lingers.

### Production

- Industrial output in March dropped 0.8 percent after a 1.2 percent increase in February. The February pickup has been the only increase over the past eight months.
- U.S. auto production for the first quarter of 1982 was down 31 percent from a year ago, with almost a half million fewer vehicles being assembled. April production was down 25 percent from a year ago.
- The factory-capacity-utilization rate in March fell to 71.4 percent after a slight pickup in February.
- Machine tools, continuing to be one of the hardest hit sectors, experienced a 42 percent decline in orders in February from a year ago. March orders were off another 17 percent from February's abysmal total.
- Housing starts have been picking up, but the gain has been slow and from very low levels to begin with. Starts were up 2.5 percent in March, the fifth consecutive monthly gain, but the annual rate remains below one million and 28 percent below a year ago. March housing sales reached a record low annual rate, raising fears that these production pickups may be transitory.

### Employment Income and Spending

As expected, the unemployment rate for March reached 9.0 percent. This figure matches the post-World-War II high set in May 1975. Other signs of weakness in the labor market are declines in the average work week, an increase in the ranks of discouraged workers (those who would like jobs but have given up hope and no longer actively seek work) to 1.34 million, and a reduction by 98,000 in March of the total number of people employed.

Personal income jumped 0.5 percent in February following a weak 0.2 percent gain in January. March's gain was a less-than-robust 0.4 percent, due to the downturn in industrial output for that month.

Retail sales gained 2.6 percent in February, recovering from January's chill and inducing optimism on the part of forecasters; however, sales plummeted 0.5 percent during March's retrenchment. Overall, consumer spending declined 0.2 percent for the month.

### Prices and Interest Rates

The inflation rate continues to abate more rapidly than many had expected. The Consumer Price Index experienced a growth rate of 7.7 percent for the 12-month period ending in February, but, over the most recent six-month period, the growth rate was only 4.5 percent.

For the first two months of 1982, inflation was proceeding at an annualized rate of 3.2 percent. Producer prices fell 0.1 percent in both February and March auguring further moderation at the retail level. The 0.3 percent drop in consumer prices in March was caused by falling prices for gas, food, and housing.

Interest rates continue to be volatile. They have, however, been following a general downward drift. Since February, most major series have declined from one-half to one percentage point through mid-April. Interest rate series continue to be closely watched because most feel that recovery hinges upon their eventual decline.

## Table 1
## Real Interest Rates for Selected Series

| | | 90-Day Treasury Bill | | 90-Day CD | | 90-Day Average Prime[2] | |
|---|---|---|---|---|---|---|---|
| Quarter | Compounded Annual Inflation Rate[1] | Nominal rate | Real rate | Nominal rate | Real rate | Nominal rate | Real rate |
| 78:1 | 9.3% | 6.2% | − 3.1% | 6.8% | − 2.5% | 8.0% | − 1.3% |
| 78:2 | 9.5 | 6.3 | − 3.2 | 6.9 | − 2.6 | 8.3 | − 1.2 |
| 78:3 | 9.3 | 7.0 | − 2.3 | 8.1 | − 1.2 | 9.1 | − 0.2 |
| 78:4 | 9.5 | 8.1 | − 1.4 | 8.9 | − 0.6 | 10.7 | + 1.2 |
| 79:1 | 14.4 | 9.3 | − 5.1 | 10.9 | − 4.5 | 11.8 | − 2.6 |
| 79:2 | 12.8 | 9.5 | − 3.3 | 10.0 | − 2.8 | 12.0 | − 0.8 |
| 79:3 | 12.8 | 9.1 | − 3.7 | 9.8 | − 3.0 | 15.0 | + 2.2 |
| 79:4 | 15.7 | 10.4 | − 5.3 | 12.0 | − 3.7 | 14.9 | − 0.8 |
| 80:1 | 15.9 | 12.1 | − 3.8 | 13.5 | − 2.4 | 16.0 | + 0.1 |
| 80:2 | 7.4 | 14.8 | + 7.4 | 18.1 | + 3.3 | 16.7 | + 9.3 |
| 80:3 | 11.5 | 7.9 | − 3.6 | 8.7 | − 2.8 | 11.5 | 0.0 |
| 80:4 | 12.0 | 11.4 | − 0.6 | 12.8 | + 0.8 | 15.7 | + 3.7 |
| 81:1 | 8.0 | 15.0 | + 7.0 | 17.0 | + 9.0 | 19.7 | + 11.7 |
| 81:2 | 11.3 | 14.4 | + 3.1 | 15.7 | + 4.4 | 18.5 | + 7.2 |
| 81:3 | 9.7 | 14.3 | + 4.6 | 17.1 | + 7.4 | 20.3 | + 10.6 |
| 81:4 | 4.8 | 14.4 | + 9.6 | 16.5 | + 11.7 | 17.5 | + 12.7 |
| 82:1 | 3.2[3] | 11.4 | + 8.2 | 13.0 | + 9.8 | 16.2 | + 13.0 |

[1] Measured by the Consumer Price Index for all urban consumers, seasonally adjusted.

[2] Ninety-day rates are based upon weekly averages over the period.

[3] Estimated.

## Outlook

The Institute forecast is not significantly different from that reported in the previous edition of this *Review*.

The eighth U.S. recession since World War II is entering its fourth quarter. In spite of the renewed weakness reported in March, odds are that it will be its last quarter. First quarter GNP declined 3.9 percent on the heels of a 4.5 percent drop in the last quarter of 1981. The first months of '82 saw a significant drawdown of inventories which have set the stage for production pickups should demand revive. As suggested earlier, the subsequent strength of the economy will be tied to the behavior of interest rates. At present, analysts are groping for reasons to explain the stubborn resistance of interest rates to decline in the face of a steadily declining inflation rate. Plausibly, the answer encompasses several factors including:

- High demand-side pressures from government deficit financing.
- Attachment of a risk premium to the credit markets by investors as a result of the increasing volatility of interest rates (see the previous issue of this *Review* for documentation).
- Lack of confidence among investors that inflation declines will be long term.
- The Federal Reserve's tight credit policies.

Because inflation decreases the value of any fixed sum of money, the real rate of interest at any time can be found by subtracting the inflation rate for that period from the nominal rate of interest. The real rate of interest measures the actual cost of borrowing money. Institute staff calculated real interest rates over the past four years for three major series. The results presented in Table 1 are illuminating and may be quite surprising to some. Real interest rates were generally negative from '78 to mid-'80. Then a sharp jump in nominal rates shot real values above zero. Although nominal rates have declined substantially since peaking in the third quarter of '81, the drop has not matched the concurrent reduction in inflation levels over this period, leaving real rates **higher** now than they were last fall.

The implications are that nominal interest rates will have to fall substantially if the real cost of borrowing is to approach pre-recession levels. Since analysts are anticipating only modest declines in this regard, the resulting high borrowing costs may augur a weaker recovery than hoped for in the second half of the year.

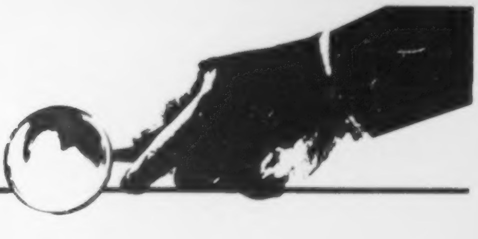
Best guesses remain that GNP will be flat in the current quarter, exhibiting little gain or decline. Growth in the second half of the year should be between three and four percent, down from earlier predictions by about two percent.

The anticipated weakness of recovery suggests continued high unemployment and further moderation in inflationary pressure. The outlook calls for unemployment to press towards 9.5 percent by summer, and for it to remain above 9.0 percent into fall. Inflation, currently proceeding at about a three percent annual rate for 1982, will likely continue that pace until summer, then pick up to a degree dependent upon the strength of recovery. The full-year average for '82 should be in the neighborhood of five percent.

Economy watchers will be closely observing developments in Washington for clues as to the nation's future course. The consensus is that a plan to reduce the level of federal deficits is necessary to bolster consumer and business confidence and to speed the decline of interest rates. If such a proposal materializes, the second-half recovery could be stronger than is presently anticipated.

**Rich Sexton**
**Research Economist**
**The Institute for Economic and Business Research**

# The Kansas Economy



A number of different factors are currently affecting, both positively and negatively, the Kansas economy. On the positive side, President Reagan's commitment to increase expenditures for the military has the potential to bolster the state economy, particularly the Wichita economy. Also, seasonal factors have had a positive influence and will continue to exert a postive influence through at least mid-summer. On the negative side, high interest rates continue to forestall any significant increase in the level of economic activity within the construction and manufacturing sectors (the two sectors most sensitive to movements of the interest rate). More specifically, the automobile and private aircraft industries have been particularly hard hit. Consequently, each of the major metro areas in the state have experienced numerous layoffs. Still on the negative side, the surplus of refining capacity *vis-a-vis* the depressed level of demand (induced by the current national recession) has resulted in the closing of four refineries within the state. Most affected by it will be the Kansas City and Phillipsburg areas.

## Employment

After five consecutive months of steady increase, the preliminary unemployment rate (seasonally unadjusted) for the state dropped one tenth of a percent from February to March. The March figure stood at 5.0 while February's was 5.1 and January's 4.8. Hence, it appears that the most telling development has been the sizable influx of seasonal employment gains. Construction and farm unemployment saw relief with the arrival of spring and planting weather. The construction, farming, services, and retail trade sectors saw the greatest gains in employment. The manufacturing (durable goods) sector was the only sector to record a drop in employment of any magnitude. All other sectors held near constant. Clearly, the most recession-prone sectors experienced a drop in economic activity. Those more susceptible to seasonal changes responded with marked gains in jobs. The net-out has resulted in a slightly improved employment situation at the state level. However, seasonally adjusted employment figures may not show this to be the case. The February to March change in the statewide unemployment rate has averaged 0.5 of a point change for the years 1978 to 1981. Hence, this year's 0.1 of a point change seems small in comparison.

In any case, seasonal improvements can be anticipated in various sectors until June and July. Then, with the arrival of summer vacation, the influx of students and unemployed teachers into the work force will prompt seasonal gains in unemployment.

It is difficult to say what will occur in the employment picture for the state as a whole. The national recession will continue its adverse effect on the state economy, and seasonal forces will counter. Their relative strengths are difficult to perceive; however, unemployment increasing seems most likely as the aircraft and its support industries prepare to weather the general slowdown over the next two to three months.

Unemployment increased in Wichita (0.5) and Kansas City (0.3) and fell in Topeka (0.6). All three urban centers experienced gains in farming and gains or no change in the construction, service, and trade sectors. Surprisingly, manufacturing employment appears to have increased in Topeka. However, illustrating the effects of the current recession, Wichita and Kansas City experienced rather sizable declines in manufacturing employment. These drops more than offset the gains in the seasonally-affected sectors in both cities; consequently, unemployment increased in both. Kansas City profited from some good news in the last week of April: General Motors announced the resumption of second-shift operations at two automobile plants to take effect in May and June. Fairfax is one of these plants. Thus, the nearly two thousand GM workers on indefinite layoff will be subject to recall over the next two months—certainly a positive sign for the Kansas City economy and, no doubt, the state's as well. Kansas City, however, has yet to weather the effects of the Phillips refinery closing; therefore, although the GM recall brightens the city's employment horizon, a general recovery is still not likely in the immediate future. In general, more than in the rural regions of the state, the urban areas face a greater prospect of higher unemployment as spring wears on.

In 1980, nearly $1.4 billion was spent in Kansas via Department of Defense expenditures. Those expenditures created over thirty thousand jobs in the state. The bulk of those jobs exist in the Wichita-area economy. Between 75 and 80 percent of the $1.4 billion was spent in the Wichita economy and created jobs for approximately 10 percent of Wichita's civilian labor force. As reported in the February issue of *Survey of Current Business*, over $77 billion were spent on defense in the fourth quarter 1981, one of the highest (if not the highest ever) level of defense spending in a time of peace. First quarter 1982 figures on defense spending have not been released, but they are most likely to reveal, again, near-record, if not record, levels of defense spending. Given President Reagan's $1.6 trillion five-year plan for building up the nation's defense, the level of spending on the military will likely increase from now until the mid-1980s. Obviously, the Administration's defense policy holds many implications for the Wichita economy in general, and specifically for Boeing Military Airplane Company, the big defense employer in the city. Currently, Boeing is optimistic about growth prospects for the next few years. Boeing will be involved in a major engine rebuilding (military aerial tankers) campaign and will also be involved in building weaponry for the B-1 bomber. On May 4, it was announced that Boeing had won a $5.6 million contract to continue the B-52 modification program. The program has been in effect since early 1978, resulting in expenditures of $1.3 million. The modifications involve new avionics systems and capabilities to launch the cruise missile.

These developments follow five years of effort by Boeing to build up its military-related operations. Since

1977, nearly $405 million has been spent by Boeing on its Wichita facilities in order to save them from the ravages of old age. As a result, Boeing now boasts one of the more modern and efficient operations in the world.

Defense spending, at the national level, has increased every quarter since mid-1980. Although it is difficult to say with certainty, it is likely that the present military build-up has helped the Wichita economy. It may not have created more jobs since the first of the year, but at least it has made what military-related jobs do exist more secure and has undoubtedly helped to build and maintain people's confidence in their local economy. Although Boeing did announce a layoff of 350 workers effective in April, the company has still a strong demand for skilled technical people. It is most probable that, without the President's defense plan, defense-related layoffs would have been larger and more numerous in the Wichita economy. Hence, the increase in military spending has not necessarily made conditions in Wichita better; it has presumably prevented things from getting worse.

Yet Boeing's commercial production line may slow in the months ahead given the rather severe slump currently being experienced in the airline industry. Although there exist both positive and negative signs concerning the airlines' present situation, current projections for jetliner orders are less optimistic than earlier ones. Thus, Boeing may yet be forced to take drastic measures similar to those made by Cessna and Beech, or gains in military spending may balance some of the losses induced by slow commercial sales. (This may already be the case on a limited scale.) In the Administration's battle to trim the deficit, defense cuts may be called for. Again, it is difficult to predict the influence such cuts (if enacted) may have. Kansans should, at least, watch with interest what happens to defense spending and the proposed defense cuts.

The private aircraft industry is the victim of high interest rates and a recession-induced drop in demand for its productions. Unlike the 1974-1975 recession when increasing energy prices tended to augment the demand for small private aircraft, lower fuel prices of the present make air travel a less competitive means of transportation. So, cheaper gasoline prices may, indeed, compound the aircraft producers' dilemma whereas before they provided them an escape from the '73-'75 recession. As a consequence of these factors, Beech, Cessna, and Gates Learjet have all experienced significant layoffs and furloughs. Wichita, Hutchinson, Winfield, and Salina (as well as other areas) have seen their unemployment rates climb as a direct result. The bulk of these layoffs ran through April and persisted into May. In addition, several plant closings were announced, extending from April to August. During the first week of May, Cessna ordered an indefinite extension of shutdowns at their Winfield and Wichita plants. Improvements will not likely occur in the short run, as slow sales continue to be a problem—an upturn is not anticipated in the summer. Whether additional layoffs and/or closings will be announced is difficult to say; recalls and restarts are not likely until inventories decline sufficiently. Should inventories remain high, employment gains will be postponed. Interest rate movement will also affect the speed and direction of inventory changes. Clearly, the aircraft industry has begun to feel, since February, the effects of the current slowdown of the national economy. The balance of military versus civilian production will tip in favor of the military as military production holds at least constant and civilian falls. Until a national recovery occurs, military production will increase its dominion over the direction of the Wichita area economy.

The rash of layoffs now manifest in the civilian aircraft industry arrived after the majority of layoffs were announced in the automobile industry. Major layoffs in the auto sector commenced last November and December and continued through January and February. No significant layoffs have occurred in the last two months. New sales campaigns, labor concessions, better weather, and slightly lower interest rates may prevent more layoffs from occurring. It is possible that the auto assembly plants in Kansas City will announce no major layoffs at least through the summer. However, those industries that support the auto industry face greater prospects for a slowdown, as exemplified by the recent layoff announced by Goodyear in Topeka and the spring layoffs at Santa Fe and Union Pacific. Fewer cars assembled in Kansas City means fewer parts and subassemblies shipped in and fewer cars shipped out. An improvement in auto sales will precipitate gains in rail employment and an eventual improvement in its related support industries (Goodyear in Topeka, Delco in Olathe). Hence, the recession in the auto industry appears to be shifting from the primary manufacturers to the secondary and supportive manufacturers. Layoffs in those industries remain a strong possibility.

Construction activity remains, in general, depressed. Home mortgage rates are near 17 percent. Expensive money, a less healthy national economy, and foul spring weather have contributed to the low level of building. Some analysts recently described the new home construction industry at the national level as "bottoming-out." Upturns may be more related to weather than any other factor.

The effects of the current oil glut on the world-wide market, on the national, and, from there, on the Kansas market, will result in nearly one thousand Kansans being laid off, some permanently.

Since February 1981, four refineries, of the eleven total, have announced closings. Two closed in that February, one in Shallow Water (E.Z. Refining) and the other in Chanute (Mid-American Refining), affecting nearly one hundred workers. In August of this year, Phillips Petroleum is scheduled to close in Kansas City, Kansas, and, on October 15, Farmland Industries will close its Phillipsburg plant. The Phillips closing will affect nearly 700 workers, the Farmland closing approximately 150-200. The oil glut is more in terms of refined products (gasoline, for example) than crude oil itself. Demand projections for the eighties, engineered in the seventies, have failed to materialize in general and, combined with the effects of the current recession (specifically, a short-run slump in demand) have resulted in an excess supply of refining capacity. Higher energy prices resulted in a more significant move to conservation than anticipated a decade ago. The relatively high fixed-cost nature of refining combined with weak demand and the subsequent fall in product prices has forced the closings in a move to reduce refining capacity. Supposedly, after these cutbacks, refinery utilization rates will be improved, thereby securing employment in the refining plants that remain. Also, lower gasoline prices and the arrival of the vacation season may augment demand and better the refiners' economic situation.

Like all other state economies, the Kansas economy has its serious concerns in the current economic environment. The recession has adversely affected the private aircraft, refining, and auto assembly industries in the state. The aircraft slowdown has affected Winfield, Salina, Liberal, Hutchinson, and, principally, Wichita. The refining slowdown will hit Phillipsburg and Kansas City. As well, Kansas City has felt the decline in auto sales as have Topeka, and Olathe. Some seasonal factors exist to moderate the auto, construction, and refining slumps; however, a general recovery will be needed to stimulate aircraft and construction sectors. Although seasonal gains in employment may counter some of the adverse effects of the recession, the improvement will be very slight.

## Agricultural Sector

Farm prices in Kansas continue to climb, albeit slowly, primarily reflecting growing strength in the livestock market. The Kansas All-Farm Products Index stood at 134 (1977 = 100) in mid-March, up one point from February but 5.6 percent below its year-ago level.

Grains continued to be very weak. Wheat and corn were off $0.07 and $0.03, respectively, in March from February levels, but sorghum was up fractionally. Prices for all three of these major Kansas cash crops are down significantly from their year-ago values, and, in fact, as Table 1 indicates they have tumbled down to near 1980 levels.

Recently released April price figures confirm the upward trend in overall prices. Both the crop and livestock indexes registered gains with the All-Farm Products Index rising 3.0 percent over the March figure. Preliminary April figures indicate monthly increases of about $0.10 a bushel for corn, sorghum, and soybeans; wheat prices remained unchanged at $3.76.

A record winter wheat planting, which managed to come through this year's severe winter in generally good shape, plus large carryovers from the 1981 crop foreshadow continued price weakness in this market. Prices over the 1982/1983 crop year may average 10 to 20 cents below 1981/1982 levels. A similar tale is in order for most other major grains: large supplies, weak economic activity, and an uncertain international outlook will continue to depress prices.

The impact of the 15 percent acreage reduction program for wheat and feed grains continues to be an area of major uncertainty. With the prospect of coninued weakness in prices, a larger proportion of farmers than expected are choosing to participate in order to secure eligibility for federal loan programs and deficiency payments. At this point, it is too early to estimate the extent these cutbacks will reduce output and to what degree prices will be stabilized as a result.

The information concerning livestock is a bit brighter. Hog and beef prices continue to strengthen. The Livestock Index rose 2.2 percent in March to 138, but it still remains one point below year ago levels. Hogs were up $1.30 over February's levels, and all beef cattle gained $1.60. Calves were particularly strong, gaining $4.30 over the month. Preliminary price figures for April show a $2.80 jump in hog prices with beef increasing only fractionally.

### Table 1
### Mid-March Prices Received by Kansas Farmers

| Commodity | 1982 | 1981 | 1980 | Percentage Change<br>Year Ago | Percentage Change<br>Two Years Ago |
|---|---|---|---|---|---|
| Wheat (bu) | $3.76 | $3.83 | $3.48 | − 1.8% | + 8.0 |
| Corn (bu) | 2.54 | 3.31 | 2.47 | − 23.3 | + 2.8 |
| Sorghum (cwt) | 3.92 | 5.05 | 3.83 | − 22.3 | + 2.3 |

Livestock slaughter in Kansas is up 6.6 percent over last year, but, nationwide, production is down. This national decline is expected to continue to stimulate price improvement over the summer. Beef demand is more sensitive to busines-cycle fluctuations than is the demand for other foods, so the extent of price improvement for beef will depend upon the overall level of economic activity. Odds are that prices for choice steers will move into the mid-sixties by summer, still, however, below 1980 prices.

Hog inventories are down dramatically from their 1980 levels. Nationwide, supplies are down almost 20 percent from two years ago, while in Kansas the hog inventory is down 7.0 percent from last year's total. Prices have already improved $9.10 (23.7 percent) from a year ago and $14.20 (42.5 percent) from two years ago, and continued strengthening, although at a slower rate, is expected on into the summer.

Overall farm costs continue to moderate. The Prices Paid Index rose four percent over the March 1981-March 1982 period. Currently, prices paid are rising at an even lower rate, with the Index declining very slightly in April. Overall prices paid should remain relatively stable throughout the summer, although weak prices and high interest rates will continue to keep many farmers out of the major equipment markets.

If grain prices remain weak as expected, farmers with grain in storage cannot anticipate covering their storage costs (unless they have hedged by selling futures contracts) and should be on the alert for short-term marketing opportunities. Some farmers may give consideration to putting at least a small portion of their acreage in alternative crops to bolster income in anticipation of continued weak prices for major grains.

**Staff**
**The Institute for Economic and Business Research**

TABLE I. GENERAL BUSINESS INDICATORS FOR KANSAS

| INDICATORS | | latest date | latest period | % change | % Change Year Ago |
|---|---|---|---|---|---|
| Manufacturing | | | | | |
| Average Work Week | hours | (M) Mar | 40.0 | 1.0 | - 2.0 |
| Average Weekly Earnings | dollars | (M) Mar | 340.4 | 0 | 8.5 |
| Initial Claims for Unemployment Insurance | th | (M) Mar | 15,573 | 5.0 | 63.8 |
| New Incorporations | | | | | |
| In-State for Profit | | (M) Mar | 439 | 43.0 | - 4.6 |
| Out-of-State | | (M) Feb | 126 | 48.2 | 1.6 |

Source: Research and Analysis Section
Division of Staff Services
Kansas Dept. of Human Resources
Kansas Secretary of State

## How to Read the *KBR* Tables

Listed at the right of each variable are its unit of measurement and the time period that it reports. For example, in Table I, the "Unemployed" figure is reported in millions and is issued on a monthly basis. The time periods are either quarterly (Q), monthly (M), or weekly (W). Thus, the number of unemployed in January 1982 was 9.3 million

The "Latest Date" column tells the latest date for which the data are available. The next column then lists that data. The "Percent Change" column offers the percent change from the previous time period. For Table I, the percent change is given at an average annual rate, unless indicated otherwise. For the remaining tables, the percent change is simply the normal percent change taken from the previous period (unless otherwise noted). The "Percent Change Year Ago" is self-explanatory.

TABLE II. NATIONAL INDICATORS

| INDICATORS | | | Latest Date | Latest Period | % Change* | % Change Year Ago |
|---|---|---|---|---|---|---|
| A. INCOME MEASURES | | | | | | |
| Gross National Product | 72 bil. $ | (Q) | 1st | 1483.6 | - 3.9 | - 2.0 |
| Disposable Personal Income | " | " | " | 1048.4 | .2 | 1.5 |
| Personal Consumption | " | " | " | 966.8 | 3.9 | .7 |
| Gross Private Investment | " | " | " | 183.1 | -45.2 | -15.6 |
| Net Export of Goods and Services | " | " | " | 37.8 | -14.4 | -25.7 |
| Personal Savings | " | " | " | 109.8 | -53.6 | 23.5 |
| Savings Rate | % | (Q) | " | 5.3 | (- .8) | (+ .6) |
| B. LABOR FORCE | | | | | | |
| Civilian Labor Force | mil. | (M) | Mar | 109.3 | 2.0 | 3.0 |
| Employed | " | " | " | 99.5 | - .4 | 1.1 |
| Unemployed | " | " | " | 9.8 | 11.6 | 26.9 |
| UNEMPLOYMENT RATES | | | | | | |
| All | % | (M) | Mar | 9.0 | (+ .2) | (+ 1.7) |
| Men | " | " | " | 7.9 | (+ .3) | (+ 2.0) |
| Women | " | " | " | 7.9 | (+ .3) | (+ 1.3) |
| Teen | " | " | " | 21.9 | (- .4) | (+ 2.8) |
| Black | " | " | " | 18.0 | (+ .7) | (+ 4.3) |
| White | " | " | " | 7.9 | (+ .2) | (+ 1.4) |
| C. PRODUCTION | | | | | | |
| Consumer Goods | 72 bil. $ | (Q) | 4th | 673.1 | -10.8 | 1.5 |
| Durable Goods | " | " | 4th | 263.3 | -21.2 | - 6.6 |
| Housing Starts | th | (M) | Feb. | 953 | 6.1 | -26.2 |
| Autos | mil. | (W) | 5/8 | 123.6 | - .6 | -19.3 |
| Business Failures | | (W) | N/A | | | |
| D. PRICES | | | | | | |
| Consumer Prices | | | | | | |
| CPI - W, All Items | 1967=100 | (M) | Mar | 282.5 | - .6 | 6.5 |
| CPI - U, All Items | " | " | " | 283.1 | - .6 | 6.8 |
| Food | " | " | " | 283.0 | - 4.1 | .5 |
| Housing | " | " | " | 306.7 | - .8 | 8.5 |

TABLE II. NATIONAL INDICATORS (cont.)

| INDICATORS | | | Latest Date | Latest Period | % Change* | % Change Year Ago |
|---|---|---|---|---|---|---|
| Apparel | " | " | Mar | 191.1 | 6.6 | 2.9 |
| Transportation | " | " | " | 285.1 | -4.4 | 3.3 |
| Medical | " | " | " | 318.1 | 2.4 | 9.6 |
| Producer Prices | | | | | | |
| All Commodities | " | " | Mar | 297.9 | - .1 | 2.6 |
| Industrial Commodities | " | " | " | 311.0 | - .1 | 3.8 |
| Crude Materials | " | " | " | 319.9 | -2.0 | - 2.5 |
| Capital Equipment | " | " | " | 275.7 | 1.3 | 6.9 |
| Agricultural Prices | | | | | | |
| Prices Received | 1977=100 | (M) | Mar | 132 | -3.0 | - 7.7 |
| Prices Paid | " | " | " | 154 | 0 | 3.4 |
| Parity Ratio | " | " | " | 86 | 0 | -10.4 |
| E. BANKING AND FINANCE | | | | | | |
| Money Supply measures | | | | | | |
| M 1 | bil. $ | (W) | Apr 21 | 452.6 | 1.7 | 8.1 |
| M 3 | bil. $ | (M) | Jan | 2,216.7 | 3.1 | 4.6 |
| Money Supply Components | | | | | | |
| Currency | bil. $ | (W) | Apr 21 | 126.2 | 1.3 | 7.0 |
| Total Checkable Deposits | " | " | Apr 21 | 323.8 | 1.7 | N.A. |
| Total Time Deposits | " | " | Apr 21 | 797.0 | - .4 | N.A. |
| Interest Rates | | | | | | |
| Prime Rate | % | (W) | Apr 28 | 16.5 | ( 0 ) | (- .6) |
| Discount Rate | " | " | Apr 28 | 12.0 | ( 0 ) | (-1.0) |
| Home Mortgage Rate | % | (M) | Feb | 17.4 | (+ .1) | (+4.4) |
| 90 Day CD's | % | (W) | Apr 28 | 14.3 | (- .1) | (-1.1) |
| 3 Month T-Bills | % | " | Apr 28 | 13.9 | (- .1) | N.A. |

p = Preliminary

* = Average Annual Rates unless indicated

0 = not available

** = numbers in parentheses indicate absolute change of the indicator

++ = not at annual rates

## TABLE III. EMPLOYMENT AND INCOME

| INDUSTRY | | | latest date | latest period | % change | % change year ago |
|---|---|---|---|---|---|---|
| A. EMPLOYMENT AND INCOME | | | | | | |
| ALL INDUSTRIES | th | (M) | Mar | 940.6 | .8 | - 1.1 |
| Manufacturing | " | " | " | 180.3 | -1.5 | - 3.0 |
| Durable Goods | " | " | " | 110.5 | -2.6 | - 7.6 |
| Stone, Clay, Glass | " | " | " | 6.1 | -2.6 | -15.3 |
| Primary Metals | " | " | " | 3.3 | -3.0 | - 5.7 |
| Fabricated Metal Products | " | " | " | 12.0 | - .8 | 0 |
| Machinery (incl. elec.) | " | " | " | 32.0 | -2.1 | - 5.6 |
| Transportation Equipment | " | " | " | 46.3 | -4.0 | - 8.5 |
| Aircraft and Parts | " | " | " | 39.2 | -5.1 | - 8.8 |
| Other Durable Goods | " | " | " | 10.8 | 0 | -12.2 |
| Nondurable Goods | " | " | " | 69.8 | .1 | 5.3 |
| Food and Kindred Products | " | " | " | 25.3 | - .8 | 11.5 |
| Meat Products | " | " | " | 10.9 | .9 | 23.9 |
| Apparel | " | " | " | 3.5 | 2.9 | 6.0 |
| Printing and Publishing | " | " | " | 16.9 | 1.2 | 1.8 |
| Chemicals | " | " | " | 8.5 | 0 | - 2.3 |
| Petroleum and Coal | " | " | " | 4.9 | 0 | 0 |
| Other Nondurable | " | " | " | 10.7 | 0 | 5.9 |
| Mining | " | " | " | 20.2 | .5 | 26.3 |
| Oil and Gas Extraction | " | " | Mar | 18.2 | - .5 | 28.2 |
| Contract Construction | " | " | " | 36.1 | 10.7 | -11.5 |
| Trans., Comm., Elec., Gas | " | " | " | 61.8 | .8 | - 4.1 |
| Wholesale Trade | " | " | " | 65.0 | .8 | - .3 |
| Retail Trade | " | " | " | 160.3 | 1.2 | - .4 |
| Finance, Insurance, Real Estate | " | " | " | 47.3 | .2 | .6 |
| Services | " | " | " | 177.8 | 1.1 | 1.4 |
| Federal Government | " | " | " | 25.3 | .8 | - 3.5 |

## TABLE III EMPLOYMENT AND INCOME (cont.)

| INDUSTRY | | | latest date | latest period | % change | % change year ago |
|---|---|---|---|---|---|---|
| State and Local Government | th | (M) | Mar | 166.5 | .7 | - 1.2 |
| Personal Income | mil $ | (Q) | 3rd | 26,297.0 | 12.2* | 11.0 |

Source: Research and Analysis Section
Division of Staff Services
Kansas Dept. of Human Resources
Bureau of Economic Analysis

* = Average annual rate.

## TABLE IV. CONSUMER PRICES - Kansas City.
CPI For All Urban Consumers
(CPI - U)

| CATEGORY | | | latest date | latest period | % change* | % change year ago |
|---|---|---|---|---|---|---|
| All Items | 1967=100 | (M) | Feb | 276.0 | .9 | 5.4 |
| Food and Beverages | " | " | " | 274.3 | 1.0 | 2.0 |
| Housing | " | " | " | 292.0 | 1.2 | 6.2 |
| Apparel and Upkeep | " | " | " | 195.6 | 2.7 | .8 |
| Transportation | " | " | " | 275.8 | -1.0 | 5.2 |
| Medical Care | " | " | " | 315.7 | 3.1 | 10.4 |

* From Two Months Previous

Source: Bureau of Labor Statistics

TABLE V. EMPLOYMENT AND SALES DATA FOR KANSAS. STATE AND AREAS

| AREA | | | latest date | latest period | % change | % change year ago |
|---|---|---|---|---|---|---|
| Kansas - Statewide | | | | | | |
| Civilian Labor Force | th | (M) | Mar | 1213.6 | 1.23 | .72 |
| Employed | " | " | " | 1153.0 | 1.35 | - .51 |
| Farm* | " | " | " | 55.4 | 14.9 | - 2.12 |
| Unemployed | " | " | " | 60.6 | - .98 | 31.74 |
| Rate | % | (M) | " | 5.0 | (- .1 ) | ( 1.2 ) |
| Retail Sales** | mil $ | (M) | " | 1147.1 | - 2.04 | 5.27 |
| Wichita SMSA | | | | | | |
| Civilian Labor Force | th | (M) | Mar | 225.5 | .85 | .09 |
| Employed | " | " | " | 212.9 | .33 | -1.84 |
| Farm | " | " | " | 2.2 | 4.76 | -4.35 |
| Unemployed | " | " | " | 12.6 | 10.53 | 50.0 |
| Rate | % | (M) | " | 5.6 | ( .5 ) | ( 1.9 ) |
| Retail Sales | mil $ | (M) | " | 254.842 | -8.69 | 7.59 |
| KANSAS Portion of Kansas City SMSA | | | | | | |
| Civilian Labor Force | th | (M) | Mar | 272.7 | .52 | 2.21 |
| Employed | " | " | " | 259.6 | .82 | 1.92 |
| Farm | " | " | " | 1.2 | 9.09 | 0 |
| Unemployed | " | " | " | 13.1 | -5.07 | 8.26 |
| Rate | % | (M) | " | 4.8 | (- .3 ) | ( .3 ) |
| Retail Sales | mil $ | (M) | " | 206,122 | -12.14 | 4.59 |
| TOPEKA SMSA | | | | | | |
| Civilian Labor Force | th | (M) | Mar | 94.3 | .11 | .11 |
| Employed | " | " | " | 89.0 | .68 | - .56 |
| Farm | " | " | " | 1.6 | 6.67 | -5.88 |
| Unemployed | " | " | " | 5.3 | - 8.62 | 12.77 |
| Rate | % | (M) | " | 5.6 | (- .6 ) | .6 |
| Retail sales | mil $ | (M) | " | 77.074 | -23.83 | -4.71 |
| LAWRENCE SMSA | | | | | | |
| Civilian Labor Force | th | (M) | Mar | 35 | .57 | - .57 |
| Employed | " | " | " | 33.5 | .9 | - .89 |
| Farm | " | " | " | .7 | 0 | 16.67 |
| Unemployed | " | " | " | 1.5 | - 6.25 | -6.25 |
| Rate | % | (M) | " | 4.3 | (- .3 ) | ( 0 ) |
| Retail Sales | mil $ | (M) | " | 26,862 | 2.61 | 8.51 |

## TABLE V. EMPLOYMENT AND SALES DATA FOR KANSAS, STATE AND AREA (cont.)

| AREA | | | latest date | latest period | % change | % change year ago |
|---|---|---|---|---|---|---|
| Riley Co. - Manhattan Area | | | | | | |
| Civilian Labor Force | th | (M) | Mar | 21.43 | - .33 | - 1.24 |
| Employed | " | " | " | 20.65 | - .24 | - .72 |
| Farm | " | " | " | .925 | 8.82 | - 7.5 |
| Unemployed | " | " | " | .775 | - 3.13 | -13.89 |
| Rate | % | (M) | " | 3.6 | (- .1 ) | (- .3 ) |
| Retail Sales | mil $ | (M) | " | 19,273 | 12.95 | 16.92 |
| Reno Co. - Hutchinson Area | | | | | | |
| Civilian Labor Force | th | (M) | Mar | 30.9 | .82 | 3 |
| Employed | " | " | " | 29.15 | .87 | 3.37 |
| Farm | " | " | " | 1.15 | 6.48 | - 4.17 |
| Unemployed | " | " | " | 1.75 | - 1.69 | - 2.78 |
| Rate | % | (M) | " | 5.7 | (- .1 ) | (- .2 ) |
| Retail Sales | mil $ | (M) | " | 32,323 | - 5.82 | 2.39 |
| Crawford Co. -Pittsburg Area | | | | | | |
| Civilian Labor Force | th | (M) | Mar | 16.53 | .18 | - .16 |
| Employed | " | " | " | 15.48 | .52 | - 2.64 |
| Farm | " | " | " | .725 | 6.62 | - 9.38 |
| Unemployed | " | " | " | 1.05 | - 7.08 | 16.67 |
| Rate | % | (M) | " | 6.4 | (- .4 ) | ( 1.0 ) |
| Retail Sales | mil $ | (M) | " | 11,535 | (-20.8 ) | - 9.04 |
| Lyon Co. - Emporia Area | | | | | | |
| Civilian Labor Force | th | (M) | Mar | 18.15 | .28 | 2.54 |
| Employed | " | " | " | 17.27 | .76 | 1.95 |
| Farm | " | " | " | .725 | 11.54 | - 9.38 |
| Unemployed | " | " | " | .925 | - 5.13 | 15.63 |
| Rate | % | (M) | " | 5.1 | (- .3 ) | ( 2.0 ) |
| Retail Sales | mil $ | (M) | " | 16,300 | - 5.91 | -26.25 |

TABLE V. EMPLOYMENT AND SALES DATA FOR KANSAS, STATE AND AREA (cont.)

| AREA | | | latest date | latest period | % change | % change year ago |
|---|---|---|---|---|---|---|
| Salina Co. - Salina Area | | | | | | |
| Civilian Labor Force | th | (M) | Mar | 26.4 | .08 | - .38 |
| Employed | " | " | " | 24.7 | 0 | - 2.37 |
| Farm | " | " | " | .625 | 13.64 | 4.17 |
| Unemployed | " | " | " | 1.7 | 3.03 | 41.67 |
| Rate | % | (M) | " | 6.4 | ( 1.0 ) | ( 1.5 ) |
| Retail Sales | mil $ | (M) | " | 26,427 | -18.42 | - 9.85 |
| Barton Co. - Great Bend Area | | | | | | |
| Civilian Labor Force | th | (M) | Mar | 19.3 | .78 | 6.04 |
| Employed | " | " | " | 18.73 | - .86 | 4.64 |
| Farm | " | " | " | .825 | 10 | 3.12 |
| Unemployed | " | " | " | .575 | ( 0.0 ) | 91.67 |
| Rate | % | (M) | " | 3 | ( 0.0 ) | ( 1.2 ) |
| Retail Sales | mil $ | (M) | " | 35,460 | -3.15 | 5.51 |
| Montgomery Co. - Coffeyville Area | | | | | | |
| Civilian Labor Force | th | (M) | Mar | 21.58 | .84 | .84 |
| Employed | " | " | " | 20.38 | .89 | - 1.55 |
| Farm | " | " | " | .525 | 10.53 | - 5.0 |
| Unemployed | " | " | " | 1.2 | 6.67 | 50.0 |
| Rate | % | (M) | " | 5.6 | (- .1 ) | ( 2 ) |
| Retail Sales | mil $ | (M) | " | 19,988 | -1.85 | 6.8 |

* Non-farm employed equals employed minus farm employed

** All retail sales figures are a monthly average for prior three months.

Sources: Research and Analysis Section
Division of Staff Services
Kansas Department of Human Resources
Tax Research Section
Kansas Department of Revenue

## TABLE VI. RETAIL SALES SUBJECT TO SALES TAX BY BUSINESS CLASSIFICATION*

| BUSINESS CLASSIFICATION | | latest date | latest period | % change | % change year ago |
|---|---|---|---|---|---|
| Apparel | mil $(M) | Mar | 29.7 | -31.72 | -17.04 |
| Automotive | " " | " | 195.1 | 20.66 | - 5.92 |
| Food | " " | " | 352.0 | 37.93 | 33.84 |
| Furniture | " " | " | 43.6 | -14.0 | - 7.23 |
| General Merchandise | " " | " | 140.3 | -46.88 | -20.6 |
| Lumber and Building Materials | " " | " | 72.0 | - 7.34 | -16.57 |
| Professional and Personal Service | " " | " | 51.0 | 3.03 | 11.84 |
| Public Utilities | " " | " | 66.2 | 5.08 | 21.92 |
| Unclassified | " " | " | 104.9 | - 6.76 | 3.15 |
| Farm and Garden Products | " " | " | .76 | -35.04 | -24 |
| Manufacturing and Trading | " " | " | 84.3 | - 5.17 | - 4.42 |
| Miscellaneous | " " | " | 7.2 | 148.28 | 33.3 |
| TOTAL | " " | " | 1,147 | - 2.05 | 5.26 |

* Monthly average for prior three months.

Source: Tax Research Section
Kansas Dept. of Revenue

## TABLE VII. BANKING AND FINANCIAL ACTIVITY

| AREA | | latest date | latest period | % change | % change year ago |
|---|---|---|---|---|---|
| Member Commercial Banks | | | | | |
| KANSAS | | | | | |
| Total Loans | mil $(M) | Mar | 3,941 | 1.13 | 7.27 |
| Total Deposits | " " | " | 6,638 | - .55 | 6.91 |
| Demand Deposits | " " | " | 1,698 | -2.86 | -3.58 |
| Time and Savings | " " | " | 4,938 | .22 | 11.02 |
| Kansas City, KS. * | | | | | |
| Total Loans | mil $(M) | Mar | 194 | -2.51 | -3.0 |
| Real Estate | " " | " | 22 | 6.80 | 22.22 |
| Commercial and Industrial | " " | " | 48 | -4.0 | -2.04 |
| Consumer | " " | " | 44 | -2.22 | 13.73 |
| Total Deposits | " " | " | 321 | -1.83 | 0 |
| Demand Deposits | " " | " | 94 | -1.05 | -1.05 |
| Time and Savings | " " | " | 227 | -2.16 | .44 |

TABLE VII. BANKING AND FINANCIAL ACTIVITY (cont.)

| AREA | | | latest date | latest period | % change | % change year ago |
|---|---|---|---|---|---|---|
| Topeka * | | | | | | |
| Total Loans | mil | $(M) | Mar | 264 | .38 | 6.88 |
| Real Estate | " | " | " | 44 | 2.33 | 2.33 |
| Commercial and Industrial | " | " | " | 137 | - .72 | 31.7 |
| Consumer | " | " | " | 43 | 0 | -2.27 |
| Total Deposits | " | " | " | 426 | -3.18 | 4.16 |
| Demand Deposits | " | " | " | 152 | -6.75 | 7.32 |
| Time and Savings | " | " | " | 273 | 1.66 | 11.89 |
| Wichita * | | | | | | |
| Total Loans | mil | $(M) | Mar | 768 | .79 | 8.17 |
| Real Estate | " | " | " | 109 | - .55 | -1.8 |
| Commercial and Industrial | " | " | " | 344 | 1.47 | 17.41 |
| Consumer | " | " | " | 214 | - .93 | 5.42 |
| Total Deposits | " | " | " | 1162 | -3.09 | 6.12 |
| Demand Deposits | " | " | " | 474 | -2.17 | 2.16 |
| Time and Savings | " | " | " | 688 | -3.64 | 9.03 |
| Savings and Loans | | | | | | |
| Kansas | | | | | | |
| Loans Made | mil | $(M) | Mar | 47.4 | 43.64 | -22.3 |
| Net Gain in Savings | " | " | " | 8.3 | -34.65 | -43.68 |
| Kansas City, KS. | | | | | | |
| Loans Made | " | " | " | 3.9 | 18.18 | 52.7 |
| Net Gain in Savings | " | " | " | - 3.1 | 1.48 | 6.90 |
| Topeka | | | | | | |
| Loans Made | " | " | " | 4.1 | 7.89 | -59.8 |
| Net Gain in Savings | " | " | " | - 1.4 | 75.0 | 25.45 |
| Wichita | | | | | | |
| Loans Made | " | " | " | 10.3 | 5.1 | -66.23 |
| Net Gain in Savings | " | " | " | - 5.2 | 15.56 | - 5.2 |

* Includes large commercial bank only.

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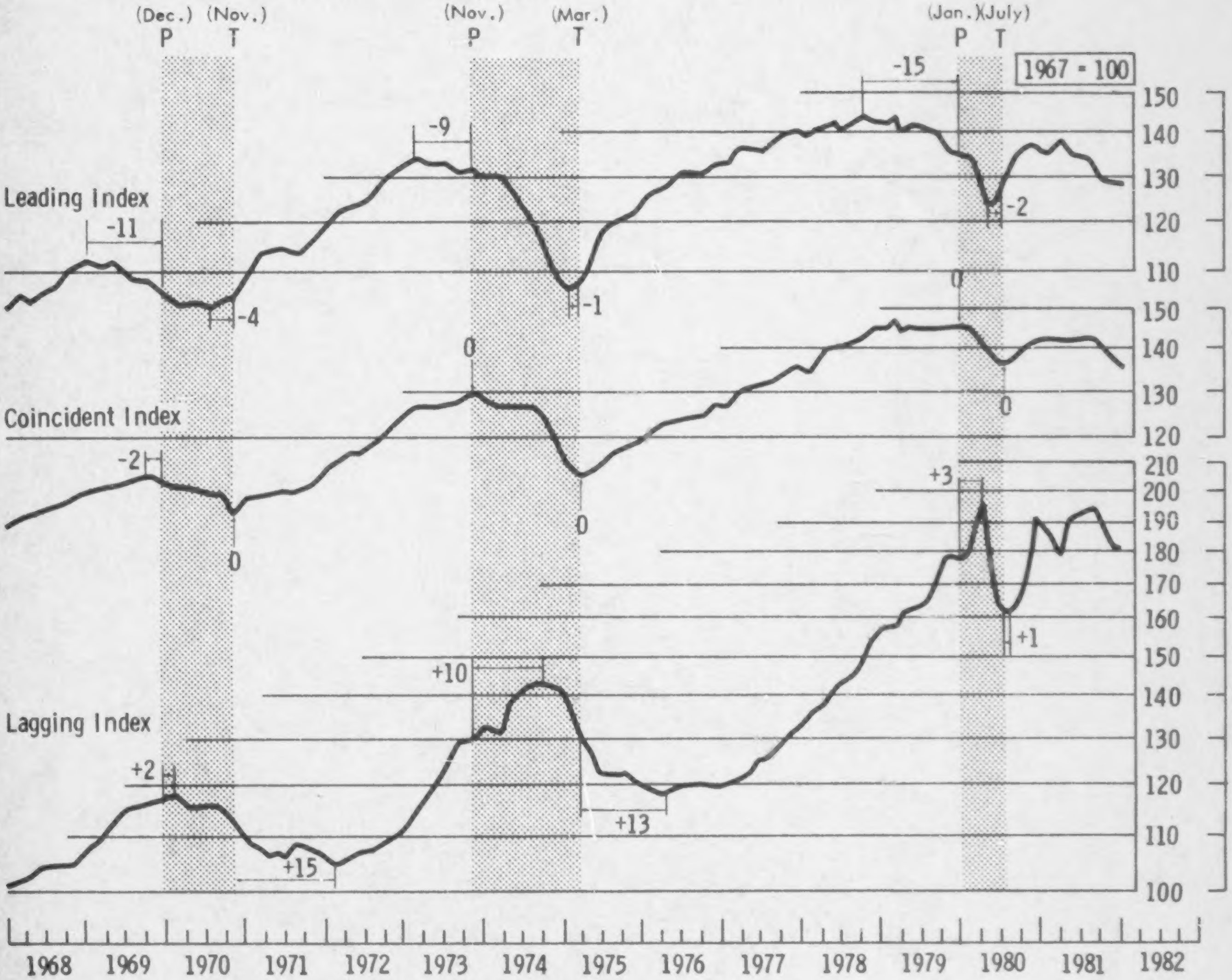
TABLE VIII. KANSAS AGRICULTURAL INDICATORS

| INDICATORS | | | latest date | latest period | % change | % change year ago |
|---|---|---|---|---|---|---|
| Prices Received | | | | | | |
| All Farm Products | 1967-100 | (M) | Mar | 134 | N.A. | N.A. |
| All Crops | | (M) | " | 127 | N.A. | N.A. |
| Wheat | $/bu | (M) | " | 3.70 | - 1.3 | - 3.4 |
| Sorghum Grain | $/cwt. | " | " | 3.88 | 0 | -23.2 |
| Corn | $/bu | " | " | 2.51 | - 1.2 | -24.2 |
| Soybeans | " | " | " | 5.67 | - .4 | -20.5 |
| All Hay | $/ton | " | " | 55.00 | 1.9 | -21.5 |
| Livestock and Products | 1967 = 100 | | " | 138 | N.A. | N.A. |
| All Beef Cattle | $/cwt. | (M) | " | 57.80 | .5 | 34.7 |
| Steers and Heifers | $/cwt. | (M) | " | 61.70 | 1.3 | - 1.0 |
| Calves | $/cwt. | (M) | " | 62.70 | 3.0 | - 7.5 |
| Hogs | $/cwt. | (M) | " | 47.60 | - 2.5 | -19.1 |
| Prices Paid[1] | | | | | | |
| Hog Conc. (38-42%) | $/cwt. | (M) | " | 11.10 | .9 | - 7.5 |
| Beef Cattle Conc. (32-36%) | $/cwt. | (M) | " | 14.30 | - 1.4 | 1.4 |
| Milk-Feed Price Ratio | | (M) | " | 1.51 | - 1.3 | 4.9 |
| Crop Production[2]* | | | | | | |
| Wheat (all) | mil. BU | (M) | 1981 | 305.0 | -27.4 | -27.4 |
| Hay Stocks (all) | mil. ton | (M) | 1981 | 6070.0 | 48.0 | 48.0 |
| Corn Grain | mil. BU | (M) | 1981 | 158.8 | 43.2 | 43.2 |
| Sorghum Grain | mil. BU | (M) | 1981 | 238.5 | 59.4 | 59.4 |
| Soybeans | mil. BU | (M) | 1981 | 45.3 | 88.8 | 88.8 |
| Livestock Production (INVENTORY)[3] | | | | | | |
| All Cattle and Calves | th head | (M) | Feb. | 1060 | -4.5 | -1.8 |
| All Cows that calved | th head | (M) | N.A. | - | - | - |
| Hogs | th head | (M) | N.A. | - | - | - |
| Farm Income[4] | mil. $ | (Q) | 3rd | 651.0 | 16.5 | -7.5 |

*Crop production figures are estimates for what the total harvest will be for the harvest year. Figures for 1982 will be reported monthly starting in March. Final harvest figures will be reported each January.

Source:
1. Farm Finance, KCLRS
2. CROPS, KCLRS
3. Livestock on FEED, KCLRS
4. Bureau of Economic Analysis



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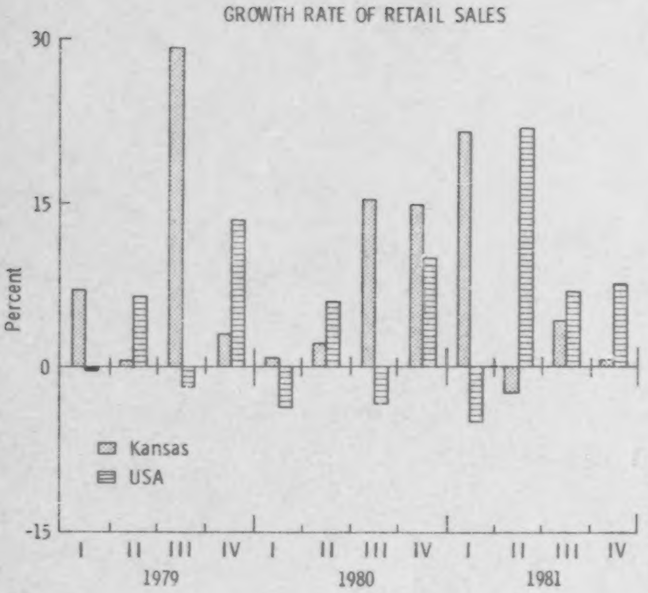

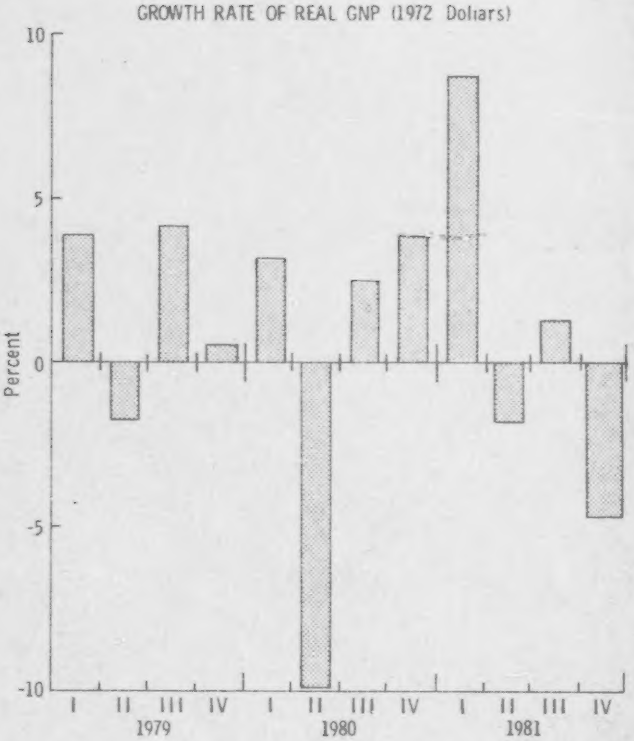

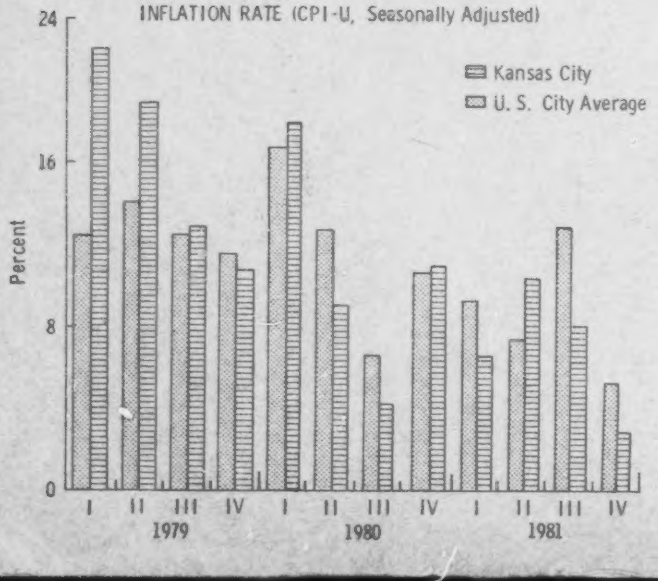

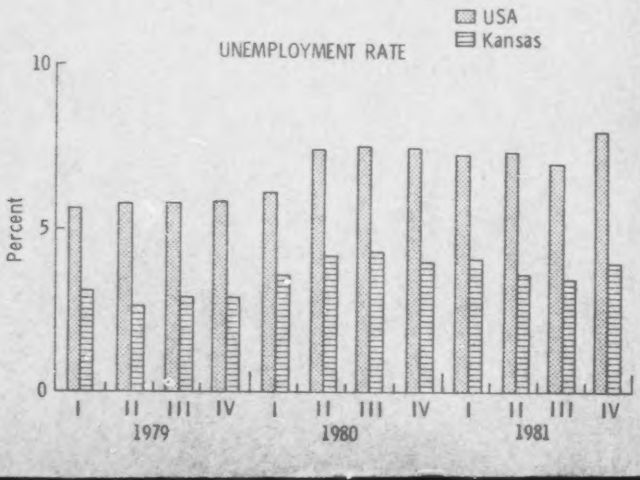

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Vol. 5 No. 6
July-August 1982
(Summer Issue)

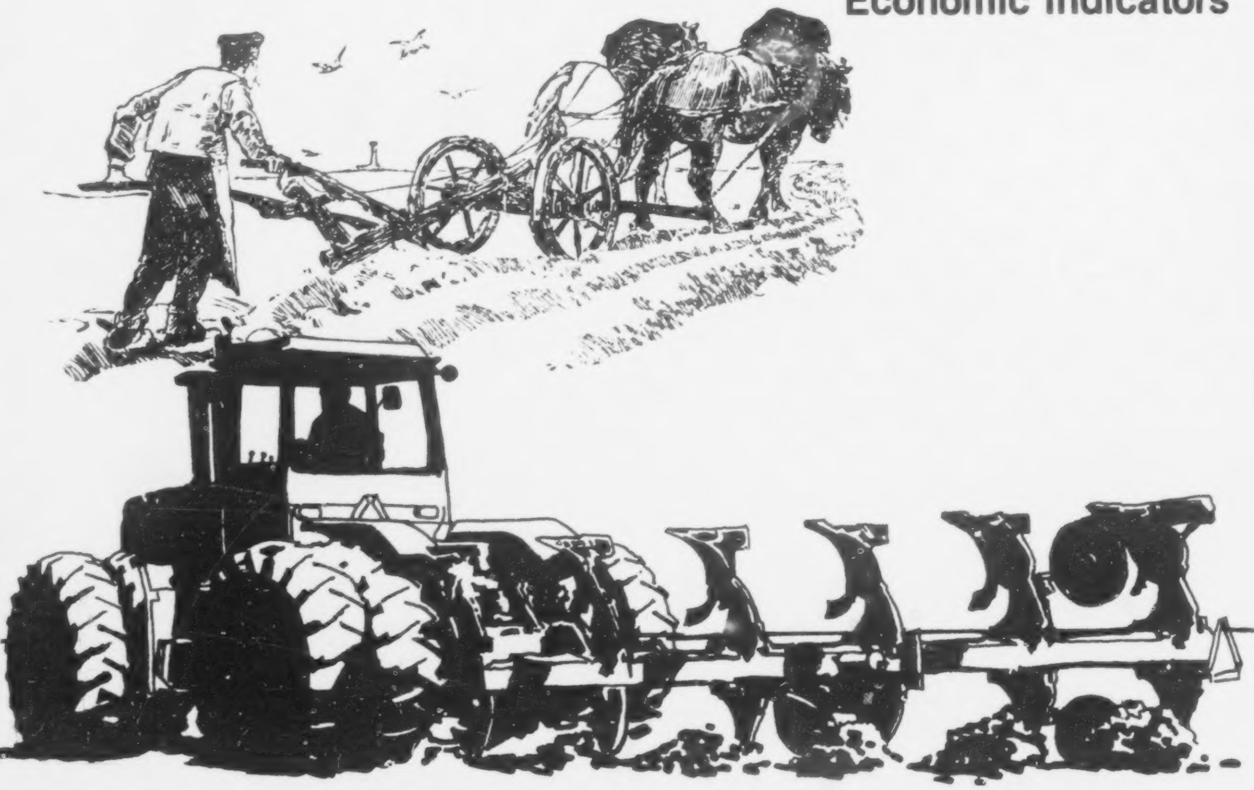
# KANSAS BUSINESS REVIEW

In This Issue:

## The Changing Structure of the Kansas Farm

Rich Sexton
John Cita

Economic Conditions
Economic Indicators



Institute for Economic and Business Research, The University of Kansas

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KANSAS AGRICULTURAL INDICATORS

| INDICATORS | | | latest date | latest period | % change | % change year ago |
|---|---|---|---|---|---|---|
| Prices Received[1] | | | | | | |
| All Farm Products | 1967=100 | (M) | May | 141 | 2.1 | 2.2 |
| All Crops | 1967=100 | " | " | 131 | .8 | -9.2 |
| Wheat | $/bu | " | " | 3.70 | -1.1 | -2.9 |
| Sorghum Grain | $/cwt. | " | " | 4.22 | 3.9 | -17.1 |
| Corn | $/bu | " | " | 2.71 | 2.7 | -17.4 |
| Soybeans | $/bu | " | " | 6.14 | 3.0 | -13.2 |
| All Hay | $/ton | " | " | 54.00 | 5.9 | -17.0 |
| Livestock and Products | 1967=100 | " | " | 148 | 4.2 | 9.6 |
| All Beef Cattle | $/cwt. | " | " | 61.30 | 2.9 | 7.4 |
| Steers and Heifers | $/cwt. | " | " | 63.60 | 3.4 | 6.7 |
| Calves | $/cwt. | " | " | 65.60 | 2.8 | 4.5 |
| Hogs | $/cwt. | " | " | 56.00 | 12.0 | 37.6 |
| Milk | $/cwt. | " | " | 13.80 | -.8 | .7 |
| Prices Paid | | | | | | |
| Hog Conc. (38-42%) | $/cwt. | " | " | 14.30 | .7 | -10.6 |
| Beef Cattle Conc. (32-36%) | $/cwt. | " | " | 11.00 | 0 | -4.3 |
| Milk-Feed Price Ratio | | " | " | 1.42 | - 1.4 | 5.9 |
| Farm Income[2] | mil.$ | (Q) | 4th | 701 | 7.7 | -6.5 |

Source: 1. Farm Finance, KCLRS
2. Bureau of Economic Analysis

# The Changing Structure of the Kansas Farm

**Rich Sexton**
**John Cita**

**Mr. Sexton is a Research Economist with the Institute for Economic and Business Research (IEBR). Currently, he is a Ph.D. candidate in Agricultural Economics at the University of Minnesota. Mr. Cita is a Research Assistant at the Institute. He is a Ph.D. candidate in Economics at the University of Kansas. Both authors gratefully acknowledge the help and contributions of Mr. Chris Rott, IEBR Research Assistant.**

## I. Introduction

The number of farms in the United States continues to decline. Those farms which remain are increasing in size, and, consequently, agricultural production is becoming concentrated in the hands of fewer farmers. Furthermore, these farms are tending to become more capital intensive, and their operators are assuming heavier debt burdens. These and other elements of the changing structure of American agriculture harbor significant implications for public policy and have become the focus for considerable attention. In particular, the direction of agriculture's development has caused some analysts to express serious concern about the future of the family farm and the continued vitality of rural communities.

These developments are of particular importance for those states, such as Kansas, in which agriculture remains a dominant economic force. Given such a rapidly evolving element in their economies, these states face a special set of challenges and problems. The purpose of this article is to provide background information on the dimensions of structural change in Kansas agriculture, concentrating for the most part on three not necessarily distinct areas of change: decreasing farm numbers and increasing farm size, changing input mix, and evolving farm production patterns. Where appropriate, the economic factors behind the observed changes are analyzed, and their consequences and future evolution are suggested. The article's intent is, then, primarily descriptive and analytic.

**Table 1**
**Elements of the Changing Structure of U.S. Agriculture**

| | 1945 | 1950 | 1954 | 1959 | 1964 | 1969 | 1974 | 1978 |
|---|---|---|---|---|---|---|---|---|
| Number of Farms[1] | 5,859,169 | 5,381,162 | 4,782,416 | 3,703,894 | 3,152,611 | 2,730,250 | 2,314,013 | 2,436,250 |
| Acres in Farms (1000 acres) | 1,141,615 | 1,161,419 | 1,158,192 | 1,123,507 | 1,110,187 | 1,062,892 | 1,017,030 | 1,044,790 |
| Average Farm Size (acres) | 195 | 216 | 242 | 303 | 352 | 389 | 439.5 | 415 |
| Value of Agricultural Products sold (mil. $) | 16,231 | 22,051 | 24,665 | 30,493 | 35,294 | 44,476 | 80,598 | 108,114 |
| Value of Land and Buildings per Farm (mil. $) | 7,917 | 14,005 | 20,405 | 34,826 | 50,846 | 75,714 | 147,838 | 262,252 |

[1] Direct comparisons of farm numbers over different Agricultural Census years cannot be made with exactness for several reasons. See note 1 in Table 2.

An overview of the changing structure of agriculture in the United States and Kansas since World War II is depicted in Tables 1 and 2, respectively. (These data as well as much of the additional information presented in this study are based upon statistics published in various years of the Census of Agriculture.) From 1945-78, farm numbers in the U.S. declined 58.4 percent, yet acreage was reduced by only 8.5 percent. As a result, there has been a 120 percent increase nationally in average farm size. Kansas experienced a 45.4 percent drop in reported farm numbers, and, similar to the national pattern, acreage in Kansas farms remained remarkably constant. As a result, the fewer Kansas farms mean larger average farm sizes—in particular, a 79.9 percent jump since World War II.

The value of farm production has been climbing steadily as well. According to Agricultural Census data, the value of production in the U.S. increased almost seven fold between 1945-78. Adjusting for increases in prices received by farmers (the Index of Prices Received increased by 154 percent over this period) generates a 162 percent increase in real value of production between 1945-78. Kansas experienced an even more rapid production growth rate over this period. There was a 17-fold increase in value of production, which, after adjustment for price changes, results in an increase of 558 percent in real production.

The value of agricultural assets and facilities has also been escalating at a rather astounding rate as is easily inferred from Tables 1 and 2. The value of land and buildings per farm has increased 33-fold and 22-fold in the U.S. and Kansas, respectively, over the 1945-78 period.

The remaining sections of this report are devoted to a more in-depth study of the changes in the structure of Kansas agriculture: farm size and numbers (Section II), input pattern (Section III), and production pattern (Section IV). Section V briefly summarizes and concludes.

## II. Changing Farm Size and Numbers

### A. BACKGROUND

With a relatively constant total acreage in agriculture,[1] decreasing farm numbers and increasing farm size go hand in hand—one is not possible without the other. These two phenomena combine to cause the bulk of agricultural production to become concentrated within fewer and fewer operations. This situation justifiably causes concern that the traditional farm economy is being eroded and that rural communities, whose life blood is the farm operators they serve, will be destroyed. It is important, therefore, to investigate the nature, causes, and consequences of these developments.

Figure 1 provides a graphic illustration of the evolution in both farm size and numbers for Kansas. The number of farms in all except the two largest size classes have been declining steadily

**Table 2**
**Elements of the Changing Structure of Kansas Agriculture**

| | 1945 | 1950 | 1954 | 1959 | 1964 | 1969 | 1974 | 1978 |
|---|---|---|---|---|---|---|---|---|
| Number of Farms[1] | 141,192 | 131,394 | 120,167 | 104,347 | 92,440 | 80,732 | 82,019 | 77,129 |
| Acres in Farms[2] | 48,589,418 | 48,611,366 | 50,023,538 | 50,152,870 | 50,271,500 | 50,559,743 | 48,949,178 | 47,747,446 |
| Average Farm size (acres) | 344 | 370 | 416 | 481 | 544 | 626 | 596 | 619 |
| Value of All Agricultural Products Sold ($1,000) | 299,244 | 327,984 | 428,450 | 486,214 | 448,624 | 1,850,741[3] | 3,753,691[3] | 5,012,183 |
| Value of Land and Buildings Average per Farm ($) | 13,962 | 24,344 | 33,117 | 48,084 | 66,397 | 91,131 | 179,454 | 313,288 |

[1] Direct comparison of time series data on farm numbers is difficult for three reasons. 1) The definition of what constitutes a farm for census purposes has been changed several times. 2) *Ceteris Paribus*, price changes over time after the number of enterprises which will meet minimum economic criteria to merit their enumeration, and 3) the 1978 census involved a much more comprehensive enumeration than prior censuses. Institute staff were able to adjust 1969 and 1974 data to make the farm numbers data directly comparable with the 1978 data. Pre-1969 data are not directly comparable, and it is likely that they overstate farm numbers relative to the 1969 and subsequent data. Although the working definition was changed in 1950 and 1959, the changes were not particularly significant and data for the 1945-1964 period may be relatively comparable.

[2] These data are adjusted for 1969 and 1974 to account for the discrepancies discussed in Note 1. Missed farms are assumed to be the average size for their class. This may result in an overstatement of the acreage figures for these years since enumerators would be most apt to miss smaller sized operations.

[3] Data is adjusted to be conformable to 1978 enumeration procedures. See previous notes.

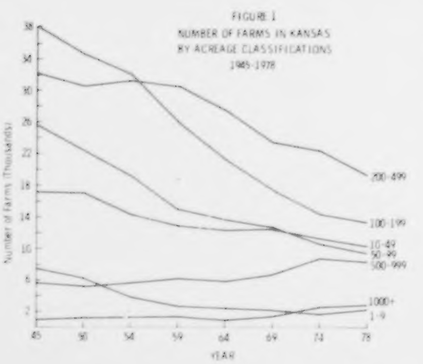


FIGURE 1
NUMBER OF FARMS IN KANSAS
BY ACREAGE CLASSIFICATIONS
1945-1978

since World War II. Only farms in the 1,000-plus acres and the 500-999 acre categories have increased in number over this period.

The concentration of farm production in Kansas resulting from this evolution in farm size and numbers is indicated in Figure 2, which shows the percentage of total Kansas agricultural sales accounted for by farms in different sales classifications. Perhaps surprisingly, farms with $500,000 or more in sales account for over 45 percent of total farm production in Kansas, this in spite of the fact that less than one percent of Kansas farms fall into that category. Reasons for this somewhat phenomenal growth in farm size are examined in subsection B. Subsection C studies consequences of this trend.

## B. CAUSES OF FARM SIZE GROWTH

Given the relative fixity of agricultural land (c.f. footnote 1), those attempting to explain the changing size structure of farms must explain not only why some farms are growing, but also why some are disappearing since quite clearly the growth of larger farms is principally accomplished through the acquisition of existing smaller operations.

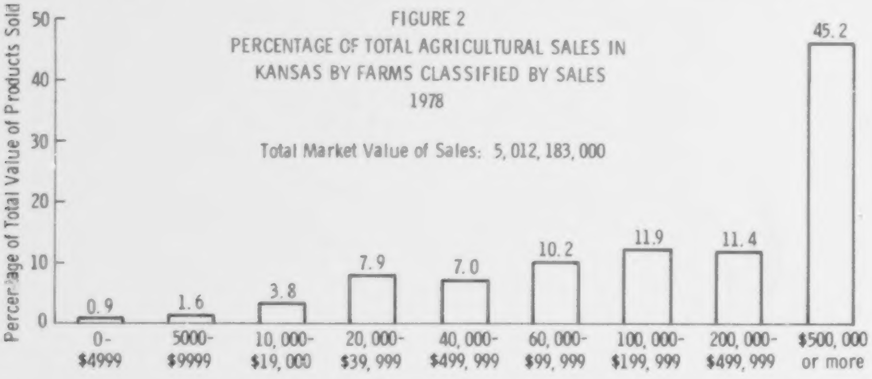


FIGURE 2
PERCENTAGE OF TOTAL AGRICULTURAL SALES IN
KANSAS BY FARMS CLASSIFIED BY SALES
1978

Total Market Value of Sales: 5,012,183,000

The traditional economic explanation for growth over time in enterprise size is that there must be economies (efficiencies) to increasing size. This explanation has not entirely satisfied agricultural economists, however, and they have, consequently, searched for other means of explaining the phenomenon.[2] A list of additional factors which many economists believe to have a positive impact on farm size includes the following:

1. That farmers expand operations to increase their income levels;
2. That increasing land prices have encouraged expansion;
3. That governmental policy tends to favor larger farms;
4. That decreasing uncertainty brought about by technological advances, comprehensive insurance, and governmental price supports have made expansion less risky;
5. That farmers seek status through expanding operations; and
6. That improvements in managerial capabilities of farm operators now enable them to coordinate larger enterprises than previously.

In what follows, this section first examines the role played by economies of size in Kansas agriculture and then turns to an examination of some of the alternative explanations.

### Economies of Size

Generally speaking, economies of size refer to cost and pricing efficiencies attained by expanding the magnitude of an operation. These economies are of two types: pecuniary and technical. Pecuniary economies, which have been investigated much less thoroughly than have technical economies, refer to pricing advantages attainable by large scale operations. Although available evidence is not extensive, that which does exist suggests that larger operations often obtain significant volume discounts on purchases and receive price premiums on sales. These practices may occur because it is cheaper to service a large client, or they may represent a form of price discrimination; that is, large operators will be able to more fully explore alternative buying and selling opportunities and, hence, will be in a better position to exact price concessions from suppliers or buyers.

Technical economies are embedded within the firms' basic productivity relationships. Such economies are said to exist when expansion of size results in a decline in per unit production costs. Technical economies are generally illustrated through construction of long-run-average-cost (LAC) curves. These curves illustrate the pattern of per unit costs assuming all productive inputs are variable. Traditional theory often assumed that the LAC was "U" shaped similar to $LAC_1$ in Figure 3.

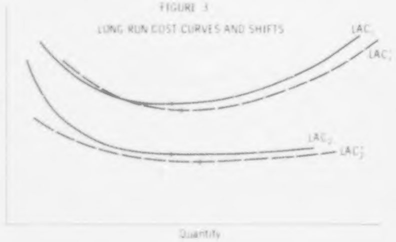


FIGURE 3
LONG RUN COST CURVES AND SHIFTS

However, more recent evidence suggests that the LAC for many industries, including agricultural sectors, may be more "L" in a manner akin to $LAC_2$ in Figure 3.

In an industry with many sellers, competitive pressures will dictate that firms eventually move to the minimum point(s) of the industry LAC curve if they are to survive. If the minimum LAC is not unique, long-run industry equilibrium will be compatible with a diversity of farm sizes.

Employing economies-of-size concepts to explain observed changes in farm size is not as easy as it may appear. The problem is that economies of size is a decidedly static concept, whereas the changes observed in farm magnitude is an inherently dynamic phenomenon. Therefore, those who seek to explain increasing farm size within the "economies" argument must choose one of two possible approaches. The first is to argue that the adjustment process to long-run equilibrium is very slow and that, consequently, the observed increases in farm size are merely a reflection of this gradual evolution. Second, it is possible to couch economies of size in a dynamic context by arguing that over time the minimum of LAC is shifting outward due to technological improvements. Therefore, regardless of the speed of the adjustment process, farm size will evolve upwards over time in response to technological advances. The dashed curves in Figure 3 illustrate what this effect might look like.

Of course, the basic issue respective to either of the two approaches is the exact extent to which economies of size are present in agriculture. Fortunately, the evidence is quite extensive and generally consistent. Maddon (1967) provides a review of research methods into the economies-of-size question as well as a survey of some earlier studies. The three basic research methods discussed are:

*Survivorship technique:* This method assumes that less efficient size classes of farms will provide decreasing proportions of the total sector output over time due to farms in those classes being driven out of the industry by competitive forces.

*Analysis of farm records:* Actual farm accounting data are employed to determine average production costs for different size class farms.

*Synthetic-farm or economic engineering studies:* Minimum cost of production methods are ascertained for hypothetical farms and per unit costs are determined by mathematical programming techniques given input costs

Each technique is subject to limitations, but the economic engineering approach has been most widely used since it provides estimates of the theoretical minimum per unit costs which conform to the definition of the LAC curve.

In examining the results of previous investigations, this article's emphasis is on studies of economies in grain, livestock and dairy farms as they comprise the overwhelming majority of farm types in Kansas. The previous studies suggest that most available economies for crop farms were exhausted at sizes of 300 to 600 acres and one to two operators. Maximum efficiencies in dairy farming were found to be attainable at herd sizes as small as 40-50 cows. Studies of beef feed lot operations suggest that no substantial economies are available at lot sizes beyond the range of 1,500-5,000 head capacity.

Primarily through use of Agricultural Census data, Institute staff were able to generate evidence on economies of size in Kansas agriculture through the survivorship method and through analysis of farm accounting data. Evidence for Kansas based upon a synthetic-farm study by Miller, Rodewald, and McElroy is also presented.

Information based upon the survivorship method is contained in Table 3. These data show the proportion of total value of production accounted for by size classes of farm for the cash grain, livestock and dairy sectors, and the data are quite enlightening. They show that for the 1964-1978 period,[3] all but the two largest sales classifications declined in terms of the percentage of output produced in that bracket for each of the three farm industries studied. In fact, livestock farms have grown so rapidly that now farms with in excess of $100,000 in sales comprise about 80 percent of the state's livestock output. In all three industries, the modal classification is now the largest—sales in excess of $100,000—whereas, in 1964, $10,000-$19,999 and $20,000-$39,999 were the modal classes in cash grain and dairy farms, respectively. Output shares in the three lowest size brackets have declined in each of the four censuses studied. It should be noted that some bracket creep over time would be expected to occur due to rising farm prices—the overall Index of Prices Received by Farmers increased by 122 percent over the period studied--but not in a magnitude approximating that which has actually been observed.

**Table 3**

**Percentage of Value of Production by Farm Size Classifications by Farm Type**

| Year | $2500-$4999 | $5000-$9999 | $10,000-$19,999 | $20,000-$39,999 | $40,000-$99,999 | $100,000 or More | Total Value of Production ($1000) |
|---|---|---|---|---|---|---|---|
| | | | | Cash Grain | | | |
| 1978 | 1.0% | 2.8% | 7.5% | 16.1% | 34.9% | 37.10% | 1,263,372 |
| 1974 | 0.8 | 2.7 | 7.7 | 17.5 | 34.5 | 36.8 | 1,700,100 |
| 1969 | 4.9 | 12.9 | 25.8 | 29.7 | 22.1 | 4.5 | 427,735 |
| 1964 | 8.2 | 22.2 | 35.2 | 22.5 | 11.1[1] | N.A. | 337,831 |
| | | | | Livestock | | | |
| 1978 | 0.5 | 1.1 | 2.4 | 4.7 | 11.0 | 79.8 | 3,445,299 |
| 1974 | 0.0 | 1.7 | 3.2 | 5.9 | 11.8 | 76.5 | 1,660,805 |
| 1969 | 1.8 | 4.7 | 10.0 | 16.0 | 20.9 | 45.7 | 667,520 |
| 1964 | 3.0 | 8.3 | 15.1 | 19.1 | 54.0[1] | N.A. | 597,634 |
| | | | | Dairy | | | |
| 1978 | 0.0 | 0.4 | 1.8 | 7.3 | 38.3 | 51.5 | 131,901 |
| 1974 | 0.1 | 0.7 | 4.0 | 18.1 | 46.7 | 30.3 | 122,371 |
| 1969 | 0.7 | 3.9 | 14.0 | 39.7 | 39.7 | 1.9 | 94,703 |
| 1964 | 3.7 | 11.7 | 32.1 | 36.1 | 16.0[1] | N.A. | 72,248 |

[1] Also includes farms with value of production of $100,000 or more

Proponents of the survivor technique claim that these data indicate the superior efficiency of the largest size farms, i.e., the existence of substantial size economies. Unfortunately, the data actually say little directly about such economies; rather, they are primarily factual, providing a further indication of the extent and direction of growth in farm size. They do not directly support the contention that larger farms are more efficient because the larger sizes they chronicle could have occured for a myriad of alternative reasons, some of which will be examined subsequently.

Analysis of farm accounting data is a superior method for determining the extent to which pricing and cost advantages or disadvantages actually accrue to larger farms. Agricultural Census data naturally is highly aggregative, but insights can be obtained by studying average farms within each of the sales classifications with a technique similar to that employed by Hall and LeVeen. Such a comparison is made in Table 4 for cash grain, livestock, and dairy farms based upon data contained in the 1974 Agricultural Census for Kansas.[4] For each sales classification, a total production cost per dollar of sales figure is calculated by dividing total production costs, excluding land expenses, by total value of production for all farms in each classification. (More details on the rationale and method for computation are contained in an Appendix.) Clearly, the smaller the resulting ratio, the greater the overall efficiency of farms in the classification.

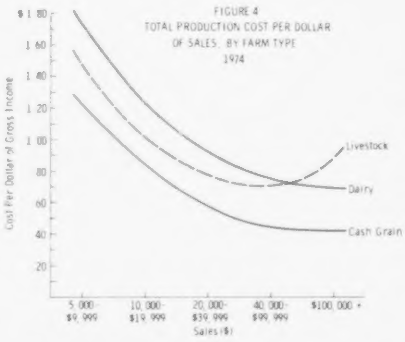


FIGURE 4
TOTAL PRODUCTION COST PER DOLLAR
OF SALES, BY FARM TYPE
1974

Examination of Table 4 indicates that progressively larger farms obtain greater efficiencies for all classes of cash grain and dairy farms and for all except the largest class of livestock farms. These results are depicted graphically in the form of LAC curves in Figure 4. Some of the smaller farms fail to earn any revenue in excess of costs, meaning that they apparently are unable to earn any return at all on their land resources.

Strictly speaking, economies of size refers to efficiencies *theoretically* obtainable by expanding an operation, whereas the estimates reported above refer to efficiences *actually* obtained. It is likely that smaller farms fail to obtain all efficiencies available to them due to lack of managerial skill or lack of incentive for the owner to devote sufficient entrepreneurial resources to the venture. This supposition tends to be born out by Miller, Rodewald, and McElroy's (MRM) synthetic-farm study. Although restricted to only winter wheat and grain sorghum farms in central Kansas, this study found available economies to be much less pervasive than what was actually obtained according to the Institute's farm accounting data analysis. The LAC curve obtained by MRM is depicted in Figure 5.

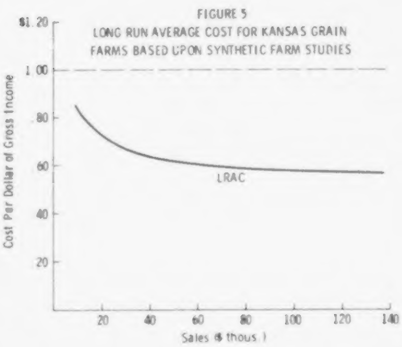


FIGURE 5
LONG RUN AVERAGE COST FOR KANSAS GRAIN FARMS BASED UPON SYNTHETIC FARM STUDIES

The costs included in this curve are less comprehensive than those embedded in the LAC curves in Figure 4 (equity capital, land, and entrepreneurship costs are excluded), so, while the relative cost magnitudes are not immediately comparable, the relative slopes of the curves do permit comparison. As is directly observable, MRM's LAC curve is much flatter; in fact, farms with sales volume of only about $40,000 were found to be able to earn a rate of return which was at least 90 percent of the rate earned by the most efficient, largest farms. The MRM-LAC curve corresponds closely to the "L"-shaped curves which are, as previously mentioned, often observed.

The results of these three investigations into size economies are actually quite compatible. Clearly some economies are obtainable from increasing farm size, yet they are not significant enough to explain the large efficiency discrepancies observed between smaller and larger farms via farm accounting data. Apparently, smaller producers do not have the expertise nor the incentive to generate maximum efficiencies on their farms. Consequently, these ventures are not very profitable and tend to disappear over time as the survivorship data bears out. The farm accounting data studied also incorporates pecuniary economies which are, of course, not treated in synthetic-farm studies.

**Table 4**
**Economies of Size in Kansas by Farm Type for 1974**

| | Cash Grain Farms | Livestock Farms Except Dairy, Poultry, and Animal Speciality | Dairy Farms |
|---|---|---|---|
| Farms with Sales in Excess of $100,000 | | | |
| Number of Farms | 3,374 | 2,058 | 243 |
| Market Value of Production ($1000) | 625,658 | 1,271,338 | 37,114 |
| Average Size of Farm (acres) | 2,231 | 2,366 | 949 |
| Average Value of Land and Buildings ($) | 700,002 | 629,228 | 371,884 |
| Average Value of Machinery and Equipment[1]($) | 85,959 | 70,167 | 70,325 |
| Average Farm Debt[1,2]($) | 118,984 | 187,428 | 130,233 |
| Total Production Costs per Dollar of Sales | 0.426 | 0.883 | 0.698 |
| Farms with $40,000-$99,999 in Sales | | | |
| Number of Farms | 9,583 | 3,121 | 904 |
| Market Value of Production ($100) | 585,888 | 196,047 | 57,187 |
| Average Size of Farm (acres) | 1,087 | 1,106 | 538 |
| Average Value of Land and Buildings ($) | 325,754 | 288,887 | 190,681 |
| Average Value of Machinery and Equipment[1]($) | 47,131 | 36,554 | 39,486 |
| Average Farm Debt[1,2]($) | 45,965 | 61,621 | 54,661 |
| Total Production Costs per Dollar of Sales | 0.439 | 0.703 | 0.752 |
| Farms with $20,000-$39,999 in Sales | | | |
| Number of Farms | 10,291 | 3,458 | 742 |
| Market Value of Production ($1000) | 297,577 | 98,095 | 22,096 |
| Average Size of Farm (acres) | 645 | 648 | 349 |
| Average Value of Land and Buildings ($) | 185,137 | 162,078 | 117,379 |
| Average Value of Machinery and Equipment[1]($) | 29,238 | 23,775 | 24,765 |
| Average Farm Debt[1,2]($) | 29,775 | 36,869 | 33,758 |
| Total Production Costs per Dollar of Sales | 0.577 | 0.803 | 0.937 |
| Farms with $10,000-$19,999 in Sales | | | |
| Number of farms | 9,033 | 3,686 | 331 |
| Market Value of Production ($1000) | 130,858 | 52,339 | 4,955 |
| Average Size of Farm (acres) | 372 | 395 | 255 |
| Average Value of Land and Buildings ($) | 109,607 | 108,020 | 82,018 |
| Average Value of Machinery and Equipment[1]($) | 20,459 | 17,839 | 20,058 |
| Average Farm Debt[1,2]($) | 20,974 | 26,674 | 21,696 |
| Total Production Costs per Dollar of Sales | 0.836 | 1.052 | 1.215 |
| Farms with $5,000-$9,999 in Sales | | | |
| Number of Farms | 6,316 | 4,026 | 117 |
| Market Value of Production ($1000) | 46,524 | 28,878 | 876 |
| Average Size of Farm (acres) | 226 | 236 | 142 |
| Average Value of Land and Buildings ($) | 69,253 | 70,620 | 40,460 |
| Average Value of Machinery and Equipment[1]($) | 15,281 | 14,044 | 14,778 |
| Average Farm Debt[1,2]($) | 15,552 | 17,642 | 16,104 |
| Total Production Costs per Dollar of Sales | 1.220 | 1.481 | 1.729 |

[1] The average is calculated for those firms reporting in this classification

[2] Indications are that farmers severly underreported their debt burdens in this census. In particular only 38 percent of cash grain farmers, 45 percent of livestock farmers and 60 percent of dairy farmers reported any debt. The effect of this underreporting on the economies of size estimates cannot be established. If farmers included only the debt upon which they based their interest costs reported in the farm production expenses section, there would be no bias.

The fundamental question remaining is, given the facts laid out by these three research methods, can the increases observed in farm size be explained in terms of economies-of-size arguments? The answer appears to be "only partially." Clearly, larger farms are somewhat more efficient particularly when compared to the smallest, so some increase in size is to be expected. Yet the adjustments may be slow. Smaller producers often are older and have fewer fixed payments and, consequently, are often able to earn a modest income in spite of substantial inefficiencies. It is only gradually, as these individuals retire, that these farms disappear, generally to be subsumed into larger, already existing operations.

Technical innovations also appear to be shifting the minimum LAC outward over time. In particular, innovations in capital have had this effect. Advanced equipment is often very large and costly and beyond the reach of smaller producers. If rental markets for this technology do not exist in adequate scope, smaller operations will not have access to the latest capital efficiencies.

Yet most technical improvements, such as chemicals and hybrid seeds, benefit both large and small producers, and it seems that moderately sized farms in the $20,000-$50,000 sales range are in a position to capture most of the economies available to larger firms. Still, the survivor data in Table 3 shows that these farms are declining in importance as well. It would seem that the economies-of-size argument is sufficiently shakey to merit the following examination of alternative explanations of increasing farm size.

## Alternative Explanations

*(1) Income growth:*

Given the prevailing opinion of agricultural researchers that economies of size in farming are not particularly significant and tend to be exhausted at reasonably small size levels, it is not surprising that alternative explanations have been sought to explain the steady growth in farm size. One of the more popular hypotheses is that farmers expand size to increase their income levels. This explanation does not require size economies, rather only that significant diseconomies be absent. For example, under a constant returns to scale production technology, expansion of scale by some specified proportion will result in an expansion of net income by the same proportion.

This explanation is grounded in an intuition similar to that which led James Duesenberry to the *relative income hypothesis*. Duesenberry was interested in explaining a group's consumption patterns which he conjectured might be positively correlated with the consumption level of a peer group. It requires only a small step beyond this conjecture to suppose, in turn, that economic agents will try to attain income levels proportional to those at some peer or reference group. The most logical point of reference in terms of relative wealth and well-being is the rest of society. In essence then, what is being suggested is that farmers will be apt over time to try to attain or maintain an income level in proportion to that being attained by the rest of society.

Of course, achievement of this goal need not require expansion of farm size. If income per acre from farming grows at a rate equivalent to the overall growth rate of per capita income, then no expansion of size would be necessary. That this, however, has not been the case is born out in Table 5. Column two gives the annual growth rate of per capita income in Kansas since 1949. The mean growth rate during these years is 6.75 percent and is tending to increase over time.[5] Column six gives average net income per acre of land farmed in Kansas during this same period. The annual percentage growth rate for this measure is extremely erratic reflecting the high degree of volatility in farm income. This type of excessive variability tends to produce statistics which are difficult to interpret and often misleading. Therefore, in column seven, the net income per acre data are smoothed by using a five-year centered moving average.[6] Annual growth rates based upon this moving average are contained in column eight. The mean growth rate based upon column eight is 2.3 percent. Hence, the growth rate of farm income per acre has been only about one third the growth rate of per capita income during this period.

Columns one and three, respectively, list per capita income and net income per farm in Kansas since 1949. Note again the much greater relative volatility of the farm income measure. Column four lists net income per farm as a percentage of per capita personal income. As is easily observed, there is a high rate of annual volatility in this series. However, what is of interest here is the long-term trend in this series, i.e., how income per farm behaved relative to overall per capita income over time.

This trend is determined by estimating the least squares trend line for this series. The estimated equation is:

$$Y_t = 172.51 - 1.27\,T_t$$
$$(1.32) \qquad R^2 = .0405$$

where Y = Net income per farm as a percentage of per capita personal income for Kansas, and T = Time in years.

The value in parentheses is the standard error. The trend line regression does a poor job of explaining the variation in Y. The standard error of the coefficient on T exceeds the value of the coefficient itself in absolute value terms, thus giving a t statistic of less than one, which makes it impossible to reject the hypothesis that the true value of the coefficient is actually zero. Whereas in most statistical analyses a model which well fits the data is desirable, in this case a poor fit generates the desired result. Although Y has exhibited considerable volatility over time, there is no discernible long-term linear trend—this in spite of the fact that per capita personal income and income per acre farmed have grown at widely different rates over the period.

The statistical analysis strongly suggests that what has happened is that farm size (column 5) has increased over time at a rate sufficient to maintain the historical balance between farm income and overall per capita income, in spite of the considerable short-term volatility in farm income.

These data are, therefore, consistent with the hypothesis that farmers expand operations to keep their income aligned over time with that of a reference group. Clearly, given limitations on the availability of farm land, this action cannot be taken by all farmers. Rather, one can conjecture that the most efficient bid acreage away from the less efficient farmers with members of the latter group eventually choosing to seek off-farm opportunities.

*(2) Rising land prices:*

The escalating cost of agricultural land is an important structural dimension in its own right, and it also provides an intuitively appealing explanation of farm size growth. Based upon neoclassical theory of production, farmers expand their land holdings as long as it is both possible and profitable to do so. It will be profitable as long as:

$$i \cdot P_L \leq VMP_L + G_L \qquad (1)$$

where $i$ = interest rate at which farmers can borrow,

$P_L$ = unit price of land,

$VMP_L$ = value of marginal product of land, i.e., the net addition to revenue from employing an additional unit of land, and

$G_L$ = unit capital gains expected from land.

Clearly, based upon (1), the more substantial are expected capital gains, the more a farmer will wish to expand farm size.

It is quite well known that agricultural land has represented one of the best

**Table 5**
**Growth of Farm Income and Personal Income in Kansas Since 1949**

| Year | 1<br>Per Capita Personal Income | 2<br>Annual Percentage Growth Rate | 3<br>Net Income per Farm | 4<br>Net Income per Farm as a Percentage of Per Capita Personal Income | 5<br>Average Farm Size (Acres) | 6<br>Net Income per Acre | 7<br>Five-year Centered Moving Average | 8<br>Annual Percentage Growth Rate Based on (8) |
|---|---|---|---|---|---|---|---|---|
| 1949 | $1,287 | | $3,360 | 253% | 366 | $ 8.91 | — | |
| 1950 | 1,443 | 12.1 | 3,048 | 211 | 374 | 8.15 | — | — |
| 1951 | 1,578 | 9.4 | 3,078 | 195 | 383 | 8.04 | 8.42 | — |
| 1952 | 1,782 | 12.9 | 3,737 | 210 | 391 | 9.56 | 7.94 | -6.7 |
| 1953 | 1,722 | -3.4 | 2,976 | 173 | 401 | 7.42 | 7.22 | -9.1 |
| 1954 | 1,762 | 2.3 | 2,677 | 152 | 411 | 6.51 | 6.79 | -6.0 |
| 1955 | 1,732 | -1.7 | 1,913 | 110 | 417 | 4.59 | 5.21 | -23.3 |
| 1956 | 1,795 | 3.6 | 2,495 | 139 | 424 | 5.88 | 5.19 | -0.4 |
| 1957 | 1,883 | 4.9 | 711 | 38 | 430 | 1.65 | 5.38 | 3.7 |
| 1958 | 2,093 | 5.8 | 3,195 | 153 | 437 | 7.31 | 5.73 | 6.5 |
| 1959 | 2,089 | 0.2 | 3,309 | 158 | 444 | 7.45 | 6.06 | 5.1 |
| 1960 | 2,165 | 3.5 | 3,896 | 134 | 456 | 6.35 | 7.39 | 21.5 |
| 1961 | 2,227 | 2.9 | 3,534 | 159 | 469 | 7.54 | 7.31 | -1.1 |
| 1962 | 2,309 | 3.7 | 3,981 | 172 | 478 | 8.32 | 7.17 | -1.9 |
| 1963 | 2,382 | 3.2 | 3,359 | 141 | 487 | 6.90 | 6.93 | -3.3 |
| 1964 | 2,496 | 4.8 | 3,390 | 136 | 502 | 6.75 | 7.21 | 4.0 |
| 1965 | 2,702 | 8.3 | 2,634 | 97 | 512 | 5.14 | 6.92 | -4.0 |
| 1966 | 2,957 | 9.4 | 4,703 | 159 | 527 | 8.92 | 6.64 | -4.0 |
| 1967 | 3,099 | 4.8 | 3,704 | 120 | 539 | 6.87 | 6.69 | 0.6 |
| 1968 | 3,327 | 7.4 | 3,033 | 91 | 551 | 5.50 | 7.54 | 12.7 |
| 1969 | 3,571 | 7.3 | 3,992 | 112 | 568 | 7.03 | 7.85 | 4.1 |
| 1970 | 3,853 | 7.9 | 5,384 | 140 | 574 | 9.38 | 10.08 | 28.4 |
| 1971 | 4,084 | 6.0 | 6,042 | 148 | 578 | 10.45 | 14.10 | 40.3 |
| 1972 | 4,539 | 11.1 | 10,488 | 2.31 | 582 | 18.02 | 17.82 | 26.4 |
| 1973 | 5,224 | 15.1 | 15,032 | 2.88 | 587 | 25.61 | 18.00 | 1.0 |
| 1974 | 5,500 | 5.3 | 14,833 | 2.71 | 590 | 25.14 | 17.63 | -2.1 |
| 1975 | 5,955 | 8.3 | 6,214 | 1.04 | 604 | 10.29 | 16.65 | -5.6 |
| 1976 | 6,444 | 8.2 | 5,611 | 87 | 618 | 9.08 | 13.25 | -20.7 |
| 1977 | 7,123 | 10.5 | 8,312 | 1.17 | 632 | 13.15 | 12.48 | -5.8 |
| 1978 | 7,989 | 12.2 | 5,466 | 68 | 638 | 8.57 | — | — |
| 1979 | 9,099 | 13.9 | 13,716 | 1.51 | 643 | 21.33 | — | — |
| 1980 | 9,928 | 9.1 | N.A. | — | 644 | N.A. | — | — |

available sources of capital gains over the past several years, and some indication of the growth in farm value is available from Census data. Although these data do not separate out the value of land from the value of fixed structures upon it, it is reasonable to assume that most of the reported growth in value of farm acreage is due to greater land values. Table 6 presents data on this growth in Kansas since 1940. Although the growth rate has been somewhat volatile, there has been substantial real (inflation adjusted) growth in value of farmland over every period presented in the table.

## Table 6
## Value per Acre of Farmland and Buildings in Kansas 1940-1978

| Year | Reported Value | Real Value[1] | Percentage Real Growth Rate |
|---|---|---|---|
| 1978 | $501 | $256 | 28.0% |
| 1974 | 296 | 200 | 38.9 |
| 1969 | 159 | 144 | 9.9 |
| 1964 | 122 | 131 | 13.9 |
| 1959 | 100 | 115 | 16.2 |
| 1954 | 80 | 99 | 7.6 |
| 1950 | 66 | 92 | 21.1 |
| 1945 | 41 | 76 | 7.0 |
| 1940 | 30 | 71 | |

[1] Real value is based on adjustment by the Consumer Price Index (1967 = 100).

Note that these data establish the profitability of acquiring additional land independent of any economies-of-size requirement. As such, the feasibility of doing so can be investigated. Two points deserve examination in this regard: first, how do farmers obtain the economic means to acquire additional land, and, second, where does the land come from? Fortunately, both matters are handled quite easily within the framework of the discussion thus far. First, since land is very costly, it is usually purchased on credit. But it is existing farm operations and, most likely, the larger ones that have sufficient equity to acquire the necessary credit. Then, subsequently, as the value of acquired land holdings increase, additional equity is generated which permits future purchases to be made. Second, rural land is made available by the exodus of smaller farmers who, as the preceding investigation showed, tend to operate much less efficiently than their larger counterparts and, consequently, lack the profitability to remain in business on a small scale, unless outside employment opportunities exist. Yet these farms usually lack sufficient equity to expand by acquiring additional land; therefore, exit from farming is often the only viable alternative.

Thus, another explanation of farm size growth—based upon growth in land values and quite independent of the explanations previously studied—merits consideration.

*(3) Government policy:*

Since the Great Depression, a host of governmental policies have arisen to support and regulate agriculture. Generally, they have been most advantageous to the large producer, which likely was not the legislative intention. The key reason for this irony is that support payments are usually a function of output, so farmers can increase their subsidy by expanding operations. Also, operators of larger farms are more apt to participate in support programs since they have more incentive to wade through the eligibility requirements.

*(4) Decreasing uncertainty:*

It can be shown by using some relatively advanced mathematical and economic concepts that, under most forms of uncertainty, risk-averse firms will produce less than they otherwise would.[7] This proposition makes sense intuitively as well. The loss to a large farm due to crop failure, for example, will be much more substantial than that incurred by a smaller farm. However, it can be argued that present risk in agriculture has been reduced sharply due to technological improvements (pesticides and herbicides, for example); price support programs, which mitigate the element of price uncertainty; and more comprehensive insurance programs. As a result, it can be suggested credibly that farmers have been able to become more specialized and to expand operations.

*(5) Status:*

Although essentially a sociological phenomenon, it is commonly recognized that stature in rural communities is often based upon the size of a farmer's enterprise. This is not to suggest that this element might cause farmers to expand when such an action is not economically desirable, but it may well provide an additional inducement when other factors for expansion are in place.

*(6) Improved managerial capabilities:*

The increasing ability of many farmers to coordinate large operations is seen by many agricultural analysts as a reason for expanding the size of farms. Even though this assertion is no doubt correct, the managerial element is really not distinct from the economies-of-size issue. In fact, managerial difficulties traditionally are cited as a major reason why diseconomies of size may occur. One might expect, consequently, that continued improvements in farm management will foster further growth in farms through the economies-of-size mechanism.

### Synopsis

This analysis has found technological economies of size to be unsubstantial for the most part in Kansas agriculture. Yet, in practice, larger farms appear to operate much more efficiently than their smaller counterparts. This subsection might be summarized by suggesting that this *lack of diseconomies* to large size farms plus the ability to acquire additional land (thereby enabling farmers to increase their incomes through increasing farm size) constitutes the single best overall explanation of the marked growth in farm sizes which has been observed.

## C. PROJECTIONS AND CONSEQUENCES

Most people expect farm numbers to continue to decline and farm size to continue to increase. The reason is that the factors causing these trends, as described earlier, will in all likelihood continue to exert similar influences in the future. In particular, farmers will continue to view expansion as a means of generating additional income and community status, and the continuing flow of labor saving technological improvements and managerial advances will enable them to do so. The current slowdown in the growth of land prices will likely cool the farm expansion fever over the next few years, but it is not apt to put out the fire.

On a national scale, USDA analysts have estimated that farm numbers will decrease about 25 percent by the year 2000; they expect increasing concentration of production as well. In fact, by 2000 they expect 77.3 percent of production to be concentrated in the hands of farms with in excess of $500,000 in sales and less than 4.0 percent to be produced by enterprises with less than $100,000 in sales.

Other analysts have, however, suggested that the size distribution of farms is becoming bimodal. This is thought to be the result of a movement back towards more rural settings which perhaps began in the sixties. Many families are establishing small part time farms on urban fringes while continuing to work off the farm to augment income. Consequently, average farm size (AFS) in counties with an urban center may decline in the future. This hypothesis is supported somewhat by Kansas data: Average farm size declined between 1974-78 for Kansas' most populous counties, Sedgwick, Johnson, Wyandotte, and Shawnee; across all Kansas counties, the correlation coefficient between 1978 AFS and number of manufacturing jobs in the county was -0.30. An even stronger correlation, -0.70, was obtained between 1978 (AFS) and the number of farmers working 200 or more days off the farm.

Although correlation obviously need not imply causation, the implications are quite clear. Counties which can provide alternative sources of income to supplement a farmer's agricultural earnings can expect to maintain more farmers and have smaller farming operations.[9] For those counties without an urban base, the logical expectation is that farms will continue to become fewer in number and larger in size.

The following discussion of the consequences of these trends in farm numbers and size will concentrate in four areas: (1) impact on economic efficiency, (2) effect on the family farm, (3) effect on conditions of entry into farming, and (4) influence on the vitality of rural communities.

(1) If there are economies to be had from the expansion of farm size, consolidation of farms will improve operational efficiency in agriculture. *A priori* these economies have appeared insignificant, e.g., Miller, Rodewald, and McElroy's study; yet *a posteriori* they have been substantial as evidenced by the data in Table 4. Other economies from larger farms may appear elsewhere in the marketing chain, due to efficiencies generated from processing large orders and so forth. To the extent such efficiences exist, expanding farm size will increase farm output and lower prices for farm products, and there is a net societal gain. Public policy has often been concerned with limiting farm size. Such proposals are misguided if economies of size are significant.

(2) The family farm is a revered part of American tradition, and concern has often been raised over threats to its vitality. In particular, many have argued that larger farms will signal the demise of the family-run enterprise and augur the advent of corporation farming.

In at least a narrow sense, these concerns are largely unfounded as can be discerned from Table 7. The individual or family-run farm continues to be the overwhelmingly dominant form of organization. Nonfamily held corporations farmed only 0.5 percent of Kansas' agricultual land in 1978. These farms, not surprisingly, are quite large, however—91 of the 162 total had sales in excess of $100,000 in 1978.

**Table 7**
**Farms and Farm Acreage in Kansas by Type of Organization: 1978[1]**

| | Farms | | Acreage | |
|---|---|---|---|---|
| Type of Organization | Number | Percentage of Total | Number | Percentage of Total |
| Individual or Family | 59,136 | 87.7% | 37,540,044 | 80.2% |
| Partnership | 6,663 | 9.9 | 6,391,707 | 13.6 |
| Corporations | 1,458 | 2.2 | 2,780,522 | 5.9 |
| Family held | 1,299 | 1.9 | 2,532,444 | 5.4 |
| Non-Family held | 162 | 0.3 | 249,318 | 0.5 |

[1] Only those farms with sales in excess of $2,500 are included in this Table

That corporate entry into agriculture has been insignificant should not be surprising. Returns to investment in farming have historically been low, so there is little reason for venture capital to move in that direction. To the extent it occurs, it often represents upstream vetical integration by food processing firms, who, as the vertical integration literature has shown, may have a variety of special incentives for undertaking such a move.

Data are not available on the extent of corporate ownership of farmland. Since this land has represented a lucrative investment opportunity for several years, there may be more substantial corporate involvement in this regard, but it is impossible to tell.

(3) One concern regarding growth in farm size has been that it limits opportunities for new farmers to enter. This assertion is justified in two ways: First, as the minimum viable scale of farming increases, so do minimum initial capital costs, and, second, as existing farmers grow and enhance their equity positions, they are able to bid land away from entrants, helping to raise land prices in the process. A number of ways to aid entry into farming have been considered and acted upon, but few have been able to enter in recent years without the beneift of inheritance.

(4) The economies of rural communities are generally centered around the agricultural sector. There can be little doubt that the vitality of these communities has been adversely affected by the growth in farm size and the corresponding decline in their numbers. One reason for this assertion is that declining farm numbers tend to erode the population base of rural counties. Another factor is that larger farmers are more apt to bypass local service facilities and implement dealerships, preferring instead to purchase supplies at larger, regional trade centers or to deal directly with wholesalers.

To investigate the significance of this first point, the percentage change in population ($\triangle P$) between 1970-80 for Kansas counties was regressed on the percentage change in number of farms ($\triangle F$) in these counties between 1969-78.[10] The estimated equation is as follows:

$$\triangle P = 3.148 + \underset{(0.101)}{0.223} \triangle F$$

$$R^2 = .050$$

The relationship is not particularly strong, but it is statistically significant and in the hypothesized direction. *Ceteris Paribus* we would expect, based upon the regression, that each one percent decline in a county's number of farms will result in a 0.22 percent decline in its population.

The second point is basically a reflection of the economics of the farm marketing process. Farmers can often obtain service at a lower cost by dealing with high volume, regional dealerships and by developing in-farm capabilities for addressing certain servicing and marketing functions which otherwise would be handled by local entrepreneurs.

The two factors often combine to form a double-edged sword which threatens to slash the lifeline of rural communities: small farmers leave farming and the rural community because of an absence of employment opportunities. The result is fewer, larger farms which, in turn, tends to further weaken the commercial base in these communities.

Sociologists have identified a movement back towards rural areas beginning in the 1960s. It is hypothesized to have been brought about by the modernization of rural America, a preference for rural living, and by a decentralization in manufacturing. It might be hoped that this phenomenon would offset the deterioration in the rural population base caused by the consolidation of farms. Unfortunately, such has not been the case—at least in Kansas. Of the 105 counties in the state, 62 had a 1970 population under 10,000. Of these counties, 43 (69 percent) lost population between 1970-80, in spite of the fact that, over all, population in the state increased 5.1 percent over this period. Apparently, the movement to rural areas is not a significant force in Kansas, or, more likely, it is a force only in those counties which lie on the fringe of the state's urban centers and does not extend into the most rural communities.

There can be little doubt that the declining vitality of rural communities in Kansas, occasioned by the evolving structure of the state's agriculture, represents an important issue for local policymakers now and in the future.

## III. Changing Input Structure

### A. TRENDS AND PATTERNS

The structure of production inputs in Kansas agriculture has altered markedly over time. Farming in Kansas has been transformed from self-sufficient enterprises of settlement days—which relied almost exclusively on land, family labor, and animal power as inputs—to market-oriented establishments which depend more and more heavily on outside, purchased inputs.

Technological change has been the principal catalyst in this structural revolution, and much of this change can be classified as labor saving and capital using. The result has been a substantial decline of labor input into agriculture and a commensurate increase in machinery use. In addition, whole new classes of inputs have been developed, e.g., chemical fertilizers, herbicides, and pesticides. These technological breakthroughs have also been labor saving, replacing, for example, time-consuming, manual methods of cultivation.

More recent developments in the revolution in the farm input structure for Kansas are detailed in Table 8 below which measures changes in the use of farm inputs since 1945 relative to the 1967 base year for the Northern Plains region. This region consists of, in addition to Kansas, Nebraska and the Dakotas. Since these states have very similar agricultural patterns, the results for any one state would be expected to be very similar to the regional outcome.

Table 8 bears close examination. Some of the patterns it details are quite significant. Initially, it can be observed that overall input use in this region has increased only slightly, 12 percent, over the 1945-1980 period. However, use of nonpurchased inputs (family labor and operator-owned real estate and capital) has declined 36 percent during this interval, while purchased input (all inputs other than nonpurchased) use has climbed 112.5 percent. Labor input has declined 72 percent over this period while land input has remained remarkably stable, consistent with the stable total farm acreage in Kansas reported earlier (c.f. Table 1). Machinery input has more than doubled since 1945, and the amount of feed, seed, and livestock purchased has almost tripled. Agricultural chemicals, including fertilizer, were not in common use in 1945 but their use subsequently has been increasing at an exponential rate to the point where in 1980 usage was over 70 times as great as that in 1945.

**Table 8**
**Indexes of Total Farm Input and Major Input Subgroups, Northern Plains Region, 1945-80[1] (1967 = 100)**

| | Total Input | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | All[1] | Non-Purchased[2] | Purchased[3] | Farm Labor[4] | Farm Real Estate[5] | Mechanical Power and Machinery[6] | Agricultural Chemicals[7] | Feed, Seed, and Livestock Purchases[8] |
| 1945 | 100 | 144 | 64 | 258 | 93 | 68 | 3 | 47 |
| 1946 | 96 | 134 | 64 | 235 | 100 | 65 | 3 | 46 |
| 1947 | 95 | 129 | 67 | 218 | 99 | 71 | 4 | 47 |
| 1948 | 96 | 131 | 67 | 210 | 100 | 80 | 5 | 45 |
| 1949 | 95 | 128 | 67 | 191 | 95 | 87 | 5 | 47 |
| 1950 | 96 | 130 | 68 | 188 | 95 | 91 | 7 | 49 |
| 1951 | 99 | 132 | 71 | 187 | 95 | 97 | 9 | 53 |
| 1952 | 100 | 132 | 73 | 179 | 95 | 103 | 11 | 55 |
| 1953 | 100 | 132 | 72 | 175 | 96 | 105 | 13 | 56 |
| 1954 | 101 | 133 | 73 | 175 | 96 | 105 | 16 | 59 |
| 1955 | 101 | 130 | 75 | 166 | 96 | 107 | 19 | 61 |
| 1956 | 97 | 125 | 73 | 152 | 94 | 106 | 18 | 61 |
| 1957 | 96 | 122 | 74 | 150 | 93 | 104 | 19 | 59 |
| 1958 | 96 | 119 | 77 | 142 | 93 | 104 | 22 | 65 |
| 1959 | 95 | 113 | 79 | 130 | 95 | 98 | 29 | 75 |
| 1960 | 96 | 112 | 81 | 129 | 95 | 100 | 31 | 76 |
| 1961 | 93 | 107 | 81 | 120 | 95 | 94 | 40 | 77 |
| 1962 | 96 | 108 | 84 | 120 | 97 | 97 | 44 | 82 |
| 1963 | 95 | 104 | 86 | 116 | 97 | 92 | 51 | 83 |
| 1964 | 95 | 102 | 87 | 110 | 98 | 91 | 54 | 84 |
| 1965 | 95 | 100 | 90 | 103 | 99 | 93 | 62 | 87 |
| 1966 | 97 | 99 | 95 | 100 | 99 | 95 | 83 | 95 |
| 1967 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 1968 | 101 | 100 | 102 | 98 | 100 | 101 | 118 | 98 |
| 1969 | 101 | 99 | 102 | 92 | 99 | 103 | 115 | 104 |
| 1970 | 100 | 98 | 104 | 92 | 99 | 99 | 128 | 111 |
| 1971 | 102 | 97 | 108 | 93 | 97 | 102 | 133 | 135 |
| 1972 | 102 | 95 | 111 | 88 | 96 | 199 | 143 | 150 |
| 1973 | 105 | 97 | 114 | 88 | 95 | 107 | 158 | 153 |
| 1974 | 105 | 100 | 112 | 88 | 95 | 112 | 158 | 134 |
| 1975 | 105 | 99 | 112 | 83 | 96 | 118 | 142 | 120 |
| 1976 | 107 | 96 | 121 | 81 | 98 | 121 | 170 | 126 |
| 1977 | 109 | 91 | 130 | 79 | 100 | 122 | 191 | 128 |
| 1978 | 112 | 92 | 135 | 75 | 99 | 129 | 197 | 137 |
| 1979 | 115 | 93 | 142 | 74 | 98 | 135 | 223 | 148 |
| 1980 | 112 | 92 | 136 | 72 | 98 | 132 | 220 | 141 |

[1] Measured in constant dollars
[2] Includes operator and unpaid family labor, and operator-owned real estate and other capital inputs
[3] Includes all inputs other than nonpurchased inputs
[4] Includes hired, operator, and unpaid family labor
[5] Includes all land in farms, service buildings, grazing fees, and repairs on service buildings
[6] Includes interest and depreciation on mechanical power and machinery, repairs, licenses, and fuel
[7] Includes fertilizer, lime, and pesticides
[8] Includes nonfarm value of feed, seed, and livestock purchases
Source: *Statistical Bulletin 679*, Economics, Statistics and Cooperatives Service, USDA

**Table 9**
**Labor Input on Kansas Farms**

| 1950 | Family (thousands) | Hired (thousands) | Total (thousands) |
|---|---|---|---|
| 1950 | 190.0 | 18.3 | 208.3 |
| 1954 | 173.5 | 26.7 | 200.2 |
| 1959 | 138.8 | 16.0 | 154.8 |
| 1963 | 126 | 23 | 149 |
| 1964 | 123 | 22 | 145 |
| 1965 | 115 | 20 | 135 |
| 1966 | 111 | 19 | 130 |
| 1967 | 106 | 17 | 123 |
| 1968 | 102 | 15 | 117 |
| 1969 | 96 | 15 | 111 |
| 1970 | 94 | 14 | 104 |
| 1971 | 94 | 15 | 109 |
| 1972 | 94 | 14 | 108 |
| 1973 | 94 | 15 | 109 |
| 1974 | 89 | 20 | 109 |
| 1975 | 82 | 21 | 103 |
| 1976 | 77.7 | 22.2 | 99.9 |
| 1977 | 75.5 | 22.0 | 97.5 |
| 1978 | 73.7 | 18.2 | 91.9 |
| 1979 | 72.5 | 22.0 | 94.5 |
| 1980 | 78.7 | 25.0 | 103.7 |

The labor component of farming in Kansas is further delineated in Table 9 which separates farm labor into family and hired components. As shown in Table 9, the actual number employed in agriculture in Kansas in 1980 was only half the 1950 total. This decline has been caused entirely by a decrease in family farm labor. Hired labor, although in decline during the '60s and early '70s, has been on the increase subsequently, no doubt attributable to the recent surge in the number of very large farms. All in all, however, hired labor has been a much less significant input on Kansas farms than, for example, on fruit and vegetable farms in California and Florida. This difference is due, of course, to the much more machine-intensive agriculture practiced in the Sunflower State.

More detail on use of purchased inputs in Kansas agriculture is available in Table 10, which chronicles expenditures in Kansas on these items for Census years from 1940 onward. Feed continues to be the most significant expense, but fertilizer costs have risen most rapidly over this period. Not surprisingly, expenses for petroleum products have increased very rapidly over the last decade. It is also worth noting that, although the actual number of hired farm workers in Kansas has been relatively stable since World War II, the expense of such labor has risen 252 percent due to wage increases.

Reliable historical data on unit input costs for a broad range of classifications are difficult to obtain. The information which is available for the 1964-78 period shows some input costs to have been very volatile (see Table 11). The most volatile categories over this period were feed, fertilizer, and petroleum costs; machine hire, labor, and chemical prices grew more steadily.

The last column in Table 11 contains the percentage change in costs over 1964-1978 for each of the categories. Most noteworthy of the Table's data is the evidence that overall prices paid by farmers have risen faster than either prices received or consumer prices. The most

**Table 10**

**Expenses for Purchased Inputs on Kansas Farms**

| | Petroleum Products ($1000) | Machine Hire ($1000) | Hired Labor ($1000) | Fertilizer ($1000) | Feed ($1000) | Chemicals ($1000) |
|---|---|---|---|---|---|---|
| 1978 | 209,399 | 85,412 | 131,607 | 253,327 | 805,448 | 68,692 |
| 1974 | 138,140 | 78,675 | 91,628 | 205,830 | 602,285 | 43,071 |
| 1969 | 76,882 | N.A. | 53,816 | 72,564 | 234,254 | 16,856 |
| 1964 | 72,103 | 30,187 | 38,399 | 44,808 | 158,575 | N.A. |
| 1959 | 65,801 | 29,782 | 33,496 | N.A. | 102,041 | N.A. |
| 1954 | 58,286 | 24,994 | 31,717 | 18,569 | 99,792 | N.A. |
| 1950 | 48,876 | 26,838 | 39,514 | N.A. | 74,226 | N.A. |
| 1945 | N.A. | N.A. | 37,410 | N.A. | 64,754 | N.A. |
| 1940 | 17,909 | N.A. | 12,140 | 1,594 | 22,138 | N.A. |

**Table 11**

**Indexes of Prices Paid by Farmers for Selected Expenses**

| | 1978 | 1974 | 1969 | 1964 | Percentage Change in Price 1964-1978 |
|---|---|---|---|---|---|
| Petroleum Products[1] | 376 | 281 | 181 | 172 | 119% |
| % Change Previous Pd. | (33.8) | (55.2) | ( 5.2) | | |
| Machine Hire[1] | 1315 | 816 | 564 | 445 | 196 |
| % Change Previous Pd. | (61.2) | (44.7) | (26.7) | | |
| Hired Labor [1] | 2053 | 1506 | 1083 | 714 | 187 |
| % Change Previous Pd. | (36.3) | (39.1) | (51.7) | | |
| Fertilizer[1] | 265 | 246 | 142 | 151 | 75 |
| % Change Previous Pd. | ( 7.7) | (73.2) | (-6.0) | | |
| Feed[1] | 390 | 414 | 204 | 205 | 91 |
| % Change Previous Pd. | (-3.4) | (102.9) | (-0.5) | | |
| Chemicals[1] | 407 | 329 | 275 | 269 | 51 |
| % Change Previous Pd. | (23.7) | (19.6) | ( 2.2) | | |
| Prices Paid, All Items[1] | 746 | 558 | 366 | 313 | 138 |
| % Change Previous Pd. | (32.0) | (25.7) | (16.9) | | |
| Prices Received, All Products[1] | 524 | 481 | 268 | 237 | 121 |
| % Change Previous Pd. | ( 9.0) | (42.2) | (13.1) | | |
| Consumer Price Index[2] | 195.3 | 147.7 | 109.8 | 92.9 | 110 |
| % Change Previous Pd. | (47.6) | (34.5) | (18.2) | | |

[1] 1910-1914 100

[2] 1967 100

rapidly escalating costs were for machine hire and hired labor; chemicals and fertilizer exhibited more modest costs increases.

Machinery use almost exactly doubled over 1945-78, but the value of machinery on the farm increased almost 15 times over this same period, serving as yet another indication of the increasing capital intensity of Kansas farming and the increasing cost of obtaining this capital. One machinery component, irrigation, particularly deserves mention. In 1945, only 96 thousand acres were irrigated in Kansas. Thirty-three years later in 1978 about 2.69 million acres were under irrigation.

These cost data provide an additional explanation for the changing input mix in farming observed in Table 8. Earlier, it was suggested that technological improvements were a factor causing decreases in labor input and increases in chemicals. Now it can also be observed that unit farm labor costs have been rising much more rapidly than costs for potential substitute inputs, such as chemicals and fertilizer. These changing input cost ratios are serving to reinforce the trend away from farm labor and towards other purchased inputs.

### B. PROJECTIONS AND CONSEQUENCES

The principal trends in input structure on Kansas farms are movements from operator-owned inputs to purchased inputs and from labor-intensive to capital-intensive technology. These trends are the product of technological change and changing input price ratios. There is every reason to suggest that these patterns will continue to be observed.

One major consequence of these trends is the increase in the value of the fixed input, land (c.f. Table 6). High land costs combined with enormous machinery cost requirements serve to erect formidable barriers to entry into farming. The results of this are twofold: 1) continued consolidation of farms because existing owners are the only ones with sufficient equity to obtain new acreage which, in turn, results in continued growth in farm size; and 2) increasing debt burdens for farmers.

Another effect of the changing input pattern is to introduce new instabilities into farming for related reasons. As farmers move towards higher proportions of purchased inputs, their fixed obligations commensurately increase, and increasing debt loads render a similar result. Consequently, farmers are becoming less able to absorb financial hardship than previously because a much greater proportion of costs are now explicit, whereas, previously, when nonpurchased inputs dominated and debt loads were light, they were in the form of implicit or opportunity costs which could be absorbed by the farm operator.

Also, the changing input structure appears to have affected tenancy patterns in Kansas. High machinery and purchased input costs have evidently made renting a farm an unprofitable proposition in Kansas. This development is suggested by Table 12 which shows the percentage of tenant operators declining steadily since 1945. It has been asserted that the principal benefit to farming in recent years has been from the appreciation of land values. Since tenants naturally have been unable to share in these rewards, it is not surprising that their numbers have decreased.

**Table 12**

**Farming Operations in Kansas by Tenure of Operator: Percent of Total Farms 1940-1978**

| | Full Owner | Part Owner | Tenant |
|---|---|---|---|
| 1940 | 34% | 21% | 45% |
| 1945 | 37 | 26 | 37 |
| 1950 | 39 | 31 | 30 |
| 1954 | 38 | 34 | 28 |
| 1959 | 36 | 38 | 26 |
| 1964 | 38 | 41 | 21 |
| 1969 | 40 | 42 | 18 |
| 1974 | 44 | 41 | 15 |
| 1978 | 41 | 42 | 17 |

The percentage of part owners has increased commensurately with the decline in tenancy. This pattern appears to be motivated by the increasing productivity and capital intensity of resources in farming, which have expanded the size of an enterprise which a producer can operate. No doubt, some have expanded through ownership, but apparently a substantial number have ended up renting part of their acreage. The source of this land has been older or less efficient farmers who have been unable to adapt to the new farming structures, but yet are able to earn a reasonable income from renting land obtained earlier at favorable terms.

## IV. Changing Production Patterns

Farm production patterns in the state have not changed as dramatically as have those for farm size, numbers, and inputs. The changes that have evolved have mainly been in response to the increased use of irrigation, and their effect has registered primarily in the geographical shift of crop and livestock production across the state. However, farm practices will be affected by the state's developing water shortage, and the years ahead will certainly be marked by production changes in response.

Although Kansas is probably best known for its wheat production, beef production has, in general, exceeded wheat production annually since the collection of data first began around 1860. Since the turn of the century, cash receipts from the marketing of cattle and calves have been nearly 45 percent of the total cash receipts annually whereas wheat has been near 24 percent. In 1979, the respective figures were 51 percent and 23 percent. The same pattern holds when looking at value of production. Since 1910, about 40-41 percent of the total production value has been with cattle and over 26 percent with wheat. For 1979, the figures were 44 percent and 27 percent, respectively.

Comparing all crops to all livestock and livestock products shows that the contribution of the latter is greater with respect to both sales and value of production. Crops, since 1900, have on average accounted for nearly 41 percent of the total cash receipts, livestock and livestock productions the remaining 59 percent. These figures were nearly duplicated in 1979. The actual figures were 40 percent and 60 percent. The relationship between all crops and all livestock has remained

Within the livestock and livestock products industry, the cattle industry has, in the last fifty years, become the dominant sector. For example, in 1930, the percent of cash receipts from marketing cattle and calves was 29 percent, hogs 15 percent, dairy productions 9.0 percent, poultry and eggs 10.5 percent, and other livestock 2.0 percent. In 1979, the figures were cattle 51 percent, hogs 5.3 percent, dairy 2.6 percent, poultry 0.4 percent, and other livestock 0.9 percent. During the same period, cattle inventory doubled, hogs declined 34 percent, sheep fell 39 percent, and dairy cow inventory dropped 84 percent. The cattle inventory peaked in 1973 at 6.8 million. By 1978, it had fallen to 6.0 million and has subsequently increased annually to 6.5 million in 1981. Of the livestock industries, cattle has always been the largest and the only one to experience a positive growth rate for the last several decades; consequently, its market position has improved relative to the other sectors.

Another measure of size accorded by the beef industry can be given relative to all crops. Since the turn of the century, the percent of cash receipts has, on average, been the same for both all crops and cattle and calves, i.e., on average since 1900, 42 percent of total cash receipts was contributed by all crops, and the same percent was contributed by cattle. Further, post-World War II, Kansas has been among the top ten producing states for all cattle (averaging fifth). In 1978, Kansas produced 5.2 percent of the total national output of cattle.

Clearly, within the state, crop production ranks second behind cattle production, but, compared to other states, Kansas is a big crop producer. Kansas has been the number one wheat producing state for nearly every year since 1920; since 1890, the number two sorghum producing state almost without fail. Kansas was not always the dominant wheat state: in 1860, it ranked 30th in production. Yet, it has always been one of the larger sorghum producers (see Table 13).

**Table 13**

**Kansas' Rank Among States for Agricultural Commodities (1860-1980)**

| Commodity | 1860 | 70 | 80 | 90 | 1900 | 10 | 20 | 30 | 40 | 45 | 50 | 54 | 59 | 64 | 69 | 74 | 76 | 80 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wheat (bu) | 30 | 18 | 11 | 6<br>(6.5)* | 4 | 2 | 1<br>(15.7) | 1 | 1 | 1 | 1<br>(14.4) | 1 | 1 | 1 | 1 | 1 | 1<br>(17.2) | 1 |
| Corn (bu) | 23 | 13 | 6 | 3<br>(12.2) | 4 | 7 | 6<br>(2.6) | 8 | 12 | 9 | 10<br>(2.2) | 14 | 12 | 17 | 12 | 9 | 11<br>(2.2) | 11 |
| Soybeans (bu) | — | — | — | — | — | — | — | 19 | 21 | 8 | 8<br>(1.6) | 16 | 9 | 12 | 11 | 17 | 17<br>(1.4) | 17 |
| Sorghum (bu) | 13 | 10 | 7 | 1<br>(13.4) | 2 | 2 | 3<br>(15.8) | 2 | 2 | 2 | 2<br>(17.3) | 2 | 2 | 2 | 2 | 2 | 2<br>(27.9) | 2 |
| All Hay (tons) | 26 | 18 | 9 | 4<br>(7.3) | 5 | 5 | 6<br>(5.8) | 12 | 22 | 13 | 9<br>(4.6) | 10 | 9 | 9 | 9 | 14 | 11<br>(3.3) | 10 |
| All Cattle | 32 | 20 | 6 | 3<br>(6.2) | 7 | 11 | 13<br>(4.9) | 16 | 11 | 8 | 6<br>(4.6) | 6 | 5 | 4 | 4 | 6 | 4<br>(5.2) | 4 |
| Irrigation (acres) | — | — | — | 13** | — | — | — | — | 17*** | 17 | 17 | 17 | 12 | 13 | 8 | 6 | 6 | — |
| Oats (bu) | 34 | 13 | 11 | 8 | 10 | 14 | 13 | 13 | 15 | 14 | 15 | 12 | 14 | 16 | 17 | 16 | 16 | 16 |
| Barley (bu) | 32 | 20 | 21 | 22 | 17 | 9 | 6 | 9 | 11 | 7 | 14 | 9 | 6 | 11 | 17 | 19 | 17 | 17 |

* Number in parenthesis indicates percent of total national production contributed by Kansas.

** Out of 16 total states that had irrigated land

*** Out of 46 states

During World War I, a shift from corn to wheat production occurred, with acres of wheat harvested nearly doubling from 1910 to 1920 and acres of corn harvested declining by over 50 percent. From that time on, wheat has been the principal crop in Kansas. Nearly half of the entire number of acres harvested annually has been in wheat. Prior to the Great War, corn was the major field crop with Kansas ranking third nationally in 1889. In 1910, nineteen percent of the total value of agricultural production was contributed by corn and 12 percent by wheat; 46 percent of the total acres harvested was corn and 25 percent wheat. By 1920, the value of production figures were approximately 35 percent wheat and 8.0 percent corn, while the acreage figures were 45 percent wheat and 26 percent corn (see Tables 14 and 15). In 1920, Kansas produced only 2.6 percent of the nation's total corn harvest; just 30 years earlier, it produced over 12 percent. It would appear, upon viewing the corn-to-wheat price ratio from 1900 to 1920, that the cost of producing corn in Kansas increased relative to other states and that the cost of producing wheat fell relatively, as indicated by the sizable shifts in the national shares of both wheat and corn production that occurred from 1890 to 1920. Hence, before the use of many high technology inputs (irrigation, chemicals, fertilizer, capital, and fuels), it also appears as if states exploited their natural environment as a means to achieve a comparative advantage. This shift was perhaps accelerated by the relatively severe drought that hit Kansas from 1910 to 1917. It is not surprising that the more rain dependent corn left the state and was replaced by wheat. A similar development occurred after the Dust Bowl: more corn left and was replaced by wheat and sorghum. Since the Dust Bowl days, the corn-to-sorghum and corn-to-soybean price ratios have been monotonically declining. Assuming production costs to be relatively constant among the three commodities, this would explain some of the shift from corn to sorghum and soybeans since the thirties.

**Table 14**

**Percent of Total Farm Value in Kansas by Commodity, 1910-1980**

| Year | Wheat | Corn | Sorghum | All Soybeans | All Hay | Livestock |
|---|---|---|---|---|---|---|
| 1910 | 12 | 19 | 0 | 0 | 6 | 58 |
| 1920 | 37 | 8 | 0 | 0 | 6 | 43 |
| 1930 | 27 | 8 | 1 | 0 | 4 | 56 |
| 1940 | 28 | 7 | 3 | 0 | 4 | 50 |
| 1949 | 30 | 8 | 4 | 1 | 5 | 52 |
| 1959 | 28 | 5 | 8 | 1 | 4 | 51 |
| 1969 | 21 | 6 | 11 | 3 | 6 | 52 |
| 1976 | 25 | 10 | 11 | 5 | 6 | 42 |
| 1980 | 28 | 7 | 8 | 3 | 5 | 48 |
| Average 1910-1980 | 26.2 | 8.7 | 5.1 | 1.4 | 5.1 | 50.2 |

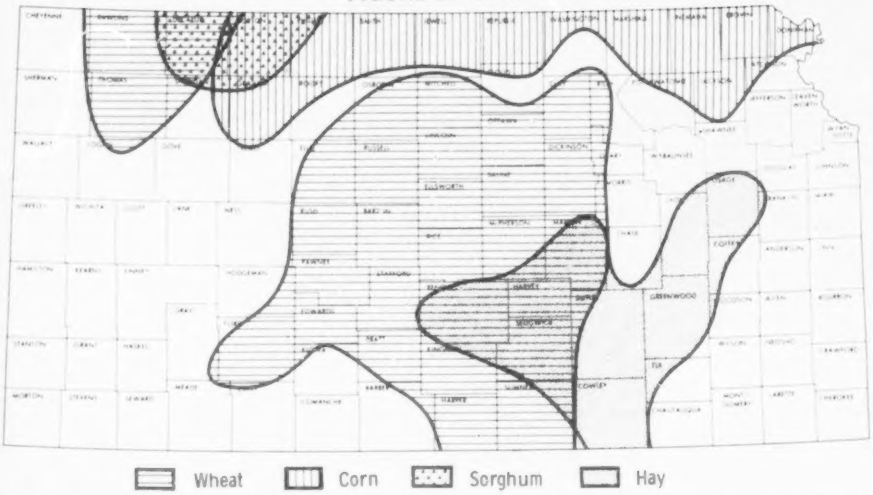
**Table 15**

**Percent of Total Acres Harvested in Kansas, 1910-1980**

| Year | Wheat | Corn | Sorghum | Soybeans | Hay | Oats | Barley |
|---|---|---|---|---|---|---|---|
| 1910 | 25 | 46 | 2 | 0 | 17 | 9 | 1 |
| 1920 | 45 | 26 | 3 | 0 | 14 | 9 | 3 |
| 1930 | 52 | 27 | 6 | 0 | 8 | 5 | 2 |
| 1940 | 44 | 13 | 21 | 0 | 7 | 8 | 7 |
| 1949 | 63 | 11 | 10 | 1 | 9 | 4 | 1 |
| 1959 | 48 | 9 | 24 | 2 | 9 | 3 | 5 |
| 1969 | 52 | 8 | 21 | 4 | 13 | 1 | 1 |
| 1978 | 50 | 9 | 22 | 7 | 11 | 1 | 0 |
| 1980 | 54 | 8 | 21 | 7 | 10 | 1 | 0 |
| Average 1910-1980 | 48.1 | 17.4 | 14.4 | 2.3 | 10.9 | 4.6 | 2.2 |

All commodities have seen rather sizable gains in yield per acre. Per acre yield for wheat increased 127 percent from 1900 to 1980; for corn, the increase was 354 percent. The percent changes for soybeans and sorghum from 1930 to 1980 were 140 percent and 293 percent, respectively. Corn productivity increased significantly during the late '50s as did sorghum. This development coincides very closely with the increased use of irrigation in the state (as well as with the conclusion of a rather intense drought from 1952-1957). From 1950 to 1954, irrigated acreage increased 138 percent; from 1954 to 1959, 100 percent. Each half

FIGURE 6. 1919



decade since 1959 has seen a 38 percent increase on average. Compared to other states, Kansas' national ranking in number of irrigated acres went from 17th largest in 1954 to 12th in 1959. During the sixties and seventies, all of the crop commodities experienced gains in productivity as the use of fertilizers, chemicals, capital, hybrid strains, and irrigation expanded to the point of being commonplace in many parts of the state. But, again, the greatest increase in yields was the result of expanded irrigation use.

Thus, changing crop patterns since 1919 can be explained, in large part, by the changing pattern of irrigation use. In 1919, the more rain-plentiful north and northeastern counties of the state produced the bulk of the state's corn and sorghum harvest, and irrigated acreage was minimal. The big hay producing counties were found in the southern Flint Hills region, stretching as far east as Reno County. Consequently, the large cattle producing counties, e.g., Washington, Marshall, Pottawatomie, Reno, Cowley, Butler, and McPherson counties, were the same as or close to the big hay and corn counties (see Figure 6). At this time, the major meat packing plants were located in the urban areas, namely Kansas City and Wichita.

By 1949, irrigation had begun in earnest in the southwest portion of the state (yet only 0.2 percent of the total farm acreage in the state was irrigated). The most intensely irrigated counties were Finney and Kearny. With this development, the larger sorghum producing counties were also found in that portion of the state that year. The major cattle producing counties remained in the same venue as in 1919 with fewer cattle coming from the northeastern counties and more coming from Lyon County and counties to the west and south of there. Also, wheat production became more favorable in the western counties. Soybeans became a significant crop in Coffey, Franklin, and Anderson counties in the late forties as well (see Figure 7).

FIGURE 7. 1949

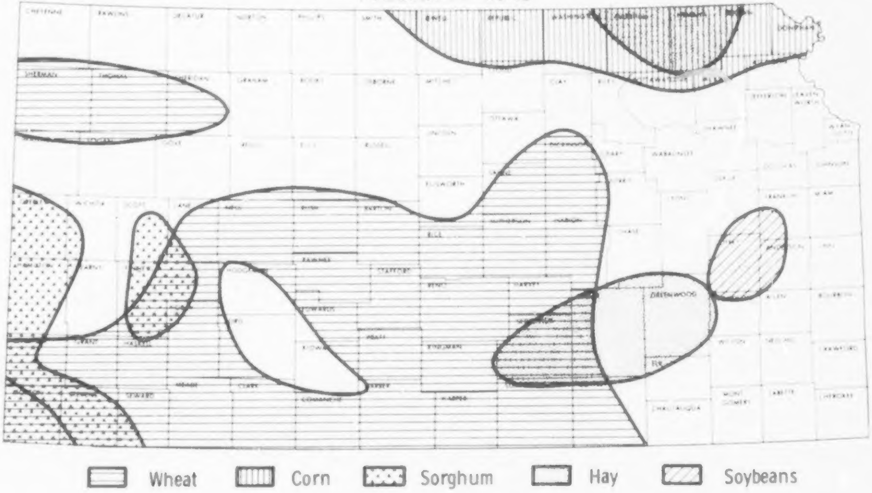
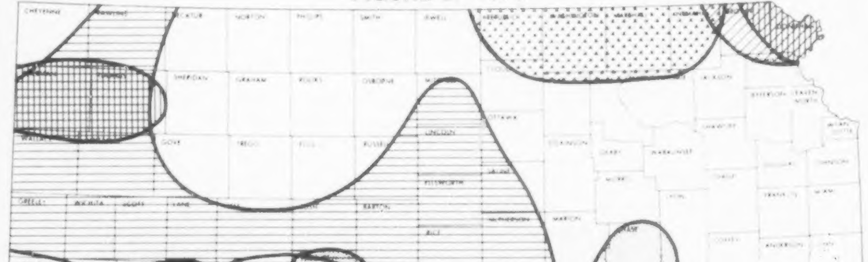


FIGURE 8. 1979



By 1978, nearly 6.0 percent of the total farm acreage in the state had the potential for irrigation, and over half of that acreage was found in the southwestern section of the state. The ten counties with the greatest number of irrigated acres (all in the southwest corner except Sherman County) produced over 44 percent and 41 percent of the state's total sorghum and corn crops, respectively. At the same time, much of the state's beef cattle (all cattle and calves) was raised in that 10-county area (nearly 20 percent), and over 45 percent of the cattle on feed in the state could be found there. Consequently, most of the state's meat (beef) packing plants and packing plant-related jobs were located in the southwestern quarter of the state. In 1978, Ford, Finney, and Seward counties provided over 3,000 meat packing plant jobs; Sedgwick and Cowley nearly 2,500. Clearly, the shift since 1949 has been from the east to the southwest, so that currently the center of packing activity in the state maps with the center of feed grain (corn and sorghum) production (see Figure 8). For the most part, the impetus for this development was the expansion of irrigation use in that part of the state.

The water shortage in western Kansas coupled with increased fuel costs will have many long-range effects on farming practices currently in use in that region. Irrigation use is likely not to grow in the decades ahead; indeed, a decline is anticipated by many. Without abundant water and cheap fuels, irrigation costs will become prohibitive. As a result, feed grain production will, at best, hold steady; it may decline. Most agricultural analysts feel that negative growth is more likely than positive. This development will serve as a reasonable barrier to growth in the cattle feeding and meat packing industries. Still, water is increasingly scarce throughout the nation just as fuel costs have gone up for everyone. Therefore, a tremendous shift of resources out of the state to a more water abundant state is not likely to occur. Instead, dry land practices will increase; greater use of drought-resistant milo will be a part of that trend. The relative importance of the crops and livestock industries is likely to remain nearly the same in the state, although crops may possibly gain moderately. Cropping practices and patterns will undoubtedly change. Irrigation will be used less, but the effect of that development on feed grain production and on the feedlot/meat packing industry is difficult to determine.

## V. Summary and Conclusions

This study surveyed structural changes during the 20th century in Kansas agriculture. Farms were found to be declining in numbers but increasing in size. They were also found to be relying increasingly upon capital and other purchased inputs and less upon labor as factors of production.

In contrast to the marked changes in farm size and numbers and in the farm input pattern, the production pattern in the state was found to have remained relatively stable. Among the major commodities produced in the state, wheat and cattle have increased in importance while corn, hogs, and dairy have declined.

For the most part, the trends uncovered were projected to continue in a similar fashion into the future. In many cases, these developments have important consequences for the Kansas economy. These implications were discussed in some detail for each element of structural change studied.

### Appendix

### Calculation Procedure for Economies-of-Size Estimates

The Census of Agriculture, which provides a comprehensive accounting of costs and revenues for a variety of farm classifications, was the basic data source for the economies-of-size estimates. The calculation procedure was similar to that employed by Hall and LeVeen (1978) with some modifications.

Value of production estimates are taken directly from Census data. (*Census of Agriculture, 1974, Volume 1, Kansas State and County Data*, Table 33, U.S. Census Bureau. The 1978 data is unpublished, but can be obtained from the Census Bureau.) Production expense data must be adjusted to account for the value of the operator's labor, the opportunity cost of machinery and equipment, the interest expenses, and the costs of land rental. Each adjustment is described below:

**Value of operator's labor:** These costs represent an addition to reported production expenses. Hall and LeVeen used $20,000 as the full-time value of the operator's labor. This figure was justifiably criticized as being much too high for the time period being considered—1974. The values employed for this study were based upon the average salary for a manufacturing worker in Kansas. Salary estimates were calculated from wage rate data obtained from the *Kansas Wage Survey* published by the Kansas Department of Human resources. For 1974, a salary of $9,000 for full-time farm work was attributed to the operator.

Information obtained from synthetic-farm studies was used to determine what proportion of the full-time operator's opportunity cost to the input to each operation. Since dairy farming is more labor intensive than crop or livestock farming, a different set of weights had to be used for that operation.

**Grain and Livestock Farms**

| Size (Acres) | Proportion of Operator's Labor Required |
|---|---|
| 1-69 | .25 |
| 70-179 | .50 |
| 180-499 | .75 |
| 500 and over | 1.00 |

**Dairy Farms**

| | |
|---|---|
| 1-49 | .25 |
| 50-99 | .50 |
| 100-179 | .75 |
| 180 and over | 1.00 |

Any labor required in addition to the operator's is assumed to be hired. This ignores the contribution of other family members which may introduce a bias into the calculations.

**Opportunity costs of machinery:** All farm equipment was valued at an eight percent opportunity cost of capital rate. However, Census data include automobiles as farm equipment. This is a largely erroneous accounting and, if not adjusted, would tend to create an upward bias on the cost of smaller farms. To correct for this, automobiles were valued at $1,500 for 1974, and the resulting amount was deleted from the reported machinery and equipment valuations.

**Interest expense:** Large and small farms tend to have different debt equity positions. Interest cost differentials between farms reflect this, but they conceal cost differences due to heterogeneous productivity relationships. Consequently, these costs must be deleted. The following interest rates were used in making these adjustments.

| | 1974 |
|---|---|
| Farm real estate loans[1] | 6.4% |
| Operating capital loans[2] | 9.0% |

[1] Source: *Agricultural Statistics*, U.S. Department of Agriculture.

[2] Source: Kansas City Federal Reserve Bank

**Land rental costs:** Large farms tend to rent a larger portion of their land than do smaller farms. Subtracting rental costs avoids introducing a bias due to that effect. A rental rate for all cropland (including both irrigated and nonirrigated land) was obtained from the Kansas Crop and Livestock Reporting Service. The rate used was $26.50/acre in 1974.

Upon making the above adjustments, one obtains an estimate of all production costs except land costs for each class of farm. The excess of revenues over adjusted production costs, if any, can be interpreted as a residual return to land.

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### Footnotes

1. Since World War II, the percentage of Kansas land in agriculture has varied only slightly—between 91 and 96 percent.

2. A more comprehensive discussion of issues in farm size and structure can be found in Ball and Heady; Penn; and Babb.

3. These are the only Census years for which sufficient data exist to employ this technique.

4. It is not possible to perform similar computations based upon published data for the 1978 Census. The data can be obtained in unpublished form but were not available at the time of publication of this study.

5. The annual percentage growth rate of per capita personal income during this period trends upward at a rate of 0.2 percent per year.

6. With a five-year centered moving average, the value of any observation is found by adding the two prior and two subsequent observations to the original value for the observation and taking the average of these five values. Note that necessarily four observations are lost when this approach is employed.

7. The interested reader might consult Sandmo and Pope and Just in this regard.

8. Lin, William, George Coffman and J.B. Penn, "U.S. Farm Numbers, Sizes and Related Structural Dimensions: Projections through the year 2000," TB-1625 U.S. Dept. of Agriculture Economics, Statistics, and Cooperative Services, 1980.

9. Looking at the correlation coefficients between percentage change in number of farms per county between 1969-78 and number of manufacturing jobs in the county and number of farmers working 200 or more days of the farm provides similar evidence. Both are positive, 0.16 and 0.10 respectively, suggesting that counties with a base of off-farm employment opportunities are more likely to experience a growth or a slower decline in farm numbers than counties which lack such a base.

10. The periods chosen here reflect the enumeration periods for the Census of Population and the Census of Agriculture. The 1969 farm size data were adjusted to make them comformable with the 1978 farm definition and canvasing procedure.

# Economic Conditions
# The National Review

## The Economy in the 1980s

The time of this writing, late June, coincides with the period in which many analysts expect the current recession to have bottomed out. As such, it represents a logical opportunity for a retrospective look at the economic damage wrought by the latest downturn.

### Production

The U.S. economy has already endured two recessions during the short tenure of the '80s. The first lasted only for the initial two quarters of 1980. The second began in 1981:3, and its end is still the subject of considerable interest, speculation, and debate. The most telling measure of economic performance is the gross national product. Quarterly GNP for the 1980s is given in Table 1. As Table 1 shows, although it was short in duration, the 1980 recession had a severe impact on GNP. The downturn in output for the 1981-82 recession has not been as steep, but it has been more prolonged.

### Table 1
### GNP Seasonally Adjusted at Annual Rates

| | GNP (1972 Dollars in Billions) | Percentage Change from Preceding Period |
|---|---|---|
| 1979:4 | $1,490.6 | — |
| 1980:1 | 1,501.9 | 3.1% |
| 1980:2 | 1,463.3 | -9.9 |
| 1980:3 | 1,471.9 | 2.4 |
| 1980:4 | 1,485.6 | 3.8 |
| 1981:1 | 1,516.4 | 8.6 |
| 1981:2 | 1,510.4 | -1.6 |
| 1981:3 | 1,515.8 | 1.4 |
| 1981:4 | 1,498.4 | -4.5 |
| 1982:1 | 1,483.6 | -3.7 |

Another significant detail to be inferred from Table 1 is that, up to the present, the '80s have been a no-growth decade. Real GNP was higher at the end of 1979 than it was after 1982:1.

As calculated, GNP consists of four basic components: personal consumption expenditure (PCE), gross private domestic investment (GPDI), government purchases of goods and services (G), and net exports (NE). The performance of each of these categories over the 1979:4-1982:1 period is depicted in Table 2.

Table 2
**GNP Components: Seasonally Adjusted at Annual Rates (1972 Dollars in Billions)**

| | PCE | GPDI | G | NE |
|---|---|---|---|---|
| 79 4 | $941 6 | $221 5 | $285 3 | $42 2 |
| 80 1 | 943 4 | 218 3 | 290 1 | 50 1 |
| 80 2 | 919 3 | 200 5 | 291 9 | 51 7 |
| 80 3 | 930 8 | 195 3 | 288 2 | 57 6 |
| 80 4 | 946 6 | 200 5 | 289 8 | 48 5 |
| 81 1 | 960 2 | 211 6 | 293 8 | 50 9 |
| 81 2 | 955 1 | 219 7 | 289 5 | 46 2 |
| 81 3 | 962 8 | 221 5 | 288 3 | 43 2 |
| 81 4 | 957 5 | 206 3 | 295 4 | 39 2 |
| 82 1 | 966 8 | 183 1 | 295 8 | 37 8 |

GPDI, representing essentially residential and nonresidential construction and durable equipment, has suffered most dramatically in the '80s, having declined $38.4 billion over the period. Interestingly, it has lost exactly this same amount over just the last three quarters which represent the current recession. This amount exceeds the $32.2 billion drop in overall GNP, which, as Table 2 indicates, is due to the offsetting effect of modest increases in PCE and G over these same quarters.

The individual sectors hardest hit in the '80s have been motor vehicles and residential construction. About one third of the GNP decline in the current recession is attributable to a $12.6 billion drop in the production of motor vehicles. Residential construction has fallen even more dramatically (see Figure 1). Between 79:4-82:1, production in this sector has declined 34 percent ($19.8 billion), losing $11.2 billion in 1981 alone.

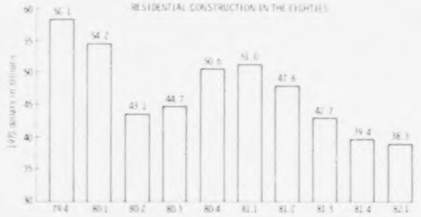


FIGURE 1
RESIDENTIAL CONSTRUCTION IN THE EIGHTIES

### Employment

The current recession has impacted with uncharacteristic severity upon the labor markets. The 9.5 percent unemployment rate attained in May represented the highest level reached since the start of World War II. Since the third quarter of 1981, total employment has declined by about one million. Not surprisingly, the bulk of unemployment is concentrated in blue collar industries. Unemployment there increased 5.1 percent (from 7.5 to 12.6 percent) from 79:4 through 82:1. Conversely, white collar unemployment increased only 1.2 percent (from 3.3 to 4.5 percent) over the same period.

Depression-like conditions have prevailed in some individual sectors. At the end of 1982's first quarter, unemployment in the construction industry was 18.2 percent, and in motor vehicles it was an astounding 20.9 percent.

The extreme severity of unemployment during the current recession is due to the short, weak 1980 downturn. Unemployment, which jumped 1.7 percentage points during that recession (Figure 2), usually lags an economic recovery. However, the economy turned down so quickly after the 1980 recession that the usual recovery in employment never really took place. As such, when unemployment started to worsen due to the 1981-82 recession, it was from already high levels.

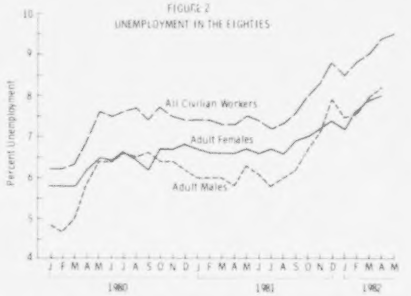


FIGURE 2
UNEMPLOYMENT IN THE EIGHTIES

As is usually the case during a recession, the unemployment rate for men has risen much more rapidly than that for women, due to the high concentration of women in the less recession prone service industries. In fact, as an examination of Figure 2 indicates, male unemployment exceeded that of women at the end of 82:1.

### Prices and Wages

Moderation of inflationary pressures has been the one piece of good economic news during the current recession. A combination of factors appears to have been responsible: the general weakness of business conditions; the Federal Reserve's strict anti-inflation policy; and the easing of pressures on some major commodity markets, e.g., food and energy.

The Consumer Price Index rose a seasonally adjusted 0.2 percent in April. This development followed on the heels of an annualized inflation rate of only 1.0 percent (Table 3) in the first quarter. Producer prices increased at an even lower annual rate, 0.6 percent, in the first quarter. However, as Table 3 also indicates, it has not been that long, 1981:3, since

## Table 3
## Seasonally Adjusted Compounded Annual Rates of Change in Prices

| | Consumer Price Index | Producer Price Index |
|---|---|---|
| 80:1 | 17.0% | 17.5% |
| 80:2 | 11.4 | 8.4 |
| 80:3 | 7.8 | 13.5 |
| 80:4 | 13.3 | 8.7 |
| 81:1 | 9.6 | 12.8 |
| 81:2 | 8.1 | 7.1 |
| 81.3 | 12.8 | 3.4 |
| 81:4 | 5.4 | 5.2 |
| 82:1 | 1.0 | 0.6 |

inflation was proceeding at double-digit levels.

Wage increases have also shown a marked deceleration during the past year. The Index of Hourly Earnings, which had been increasing at an annual rate in the range of 9.0-10.5 percent through 1980 and early 1981, slowed to a 8.0-8.5 percent rate by mid-1981 and to an even lower 7.5 percent pace subsequently.

An alternative measure of wage changes, compensation per hour, increased at an annual rate of 8.0 percent in 82:1 compared to 12.0 percent in 81:1. The bulk of the deceleration has been in manufacturing and the trades.

The deceleration in wages appears to have been caused primarily by weak business conditions and labor market surpluses, rather than by the falling overall inflation rate. However, the declining rate of increase in the CPI will begin to exert a stronger influence on wages in 1982 since most cost of living adjustments (COLA) are based upon the CPI. Due to the cooling of inflation, the average COLA for 1982 is expected to be only 3.5 percent.

Also, 1982 is an important collective bargaining year—3.7 million workers are covered by agreements expiring or reopening in 1982—and the combination of recession and lower inflation will likely insure continued wage stability.

## Outlook

Whether the economy meets its July 1 recovery deadline will probably not be officially known for some time. However, as the second quarter draws to a close, it has become apparent that recovery will not significantly precede that date.

The latest economic data to be released are a mixed bag. Some suggest an upturn is imminent, but others indicate that perhaps a renewed squeamishness developed in the economy during May.

The major piece of good news is that the Index of Leading Economic Indicators finally turned up in April (0.8 percent) after 11 consecutive monthly declines. Also some new evidence exists to suggest that consumer demand may be on the threshold of a revival. Domestic car sales were up 15 percent in May, and overall retail sales in April jumped a healthy 1.4 percent. May personal consumption expenditures were up 1.3 percent, the largest monthly increase since last August. There was also a $1.18 billion expansion of consumer credit in April, the largest such total since September of last year. Consumers' willingness to take on debt is considered to be a sign that they are regaining confidence in the economy.

A $17.5 billion sell-off of inventories occurred during the first quarter of 1982. This development sets the stage for an almost immediate pickup in production if the revival of consumer demand should materialize. May industrial output fell 0.2 percent, but analysts took heart that the decline was much smaller than the 0.8 percent contraction experienced in both March and April.

The housing industry also appears poised on the verge of a mild recovery. Starts in May rose 22 percent over April's total and passed the one million annualized rate for the first time this year. May building permits were up 10 percent, auguring further improvement.

Much of the bad news concerns April's economic performance. For example:

- Construction spending was off 0.6 percent, and the value of new contracts awarded for the month was down 16 percent from March's total.
- New factory indexes declined 2.3 percent, and the factory capacity utilization rate fell to 71.1 percent. Overall factory output for the month fell 0.6 percent.
- Sales of new single family housing hit the lowest level since such records were kept beginning in 1963, and housing starts were off 6.4 percent for the month.
- Personal income rose an anemic 0.3 percent in April. Income growth in May, however, was somewhat stronger (0.7 percent).

Perhaps more troubling, however, were indications that the economy became increasingly unsettled in May and early June. The stock market, considered one of the most reliable leading indicators, plunged to new lows for 1982 in a slide beginning in mid-May and continuing well into June. Also, the monthly survey of purchasing managers indicated that an increase in the rate of economic decline occurred in May.

These new tremblings can probably be traced to increasing uncertainties over the economy caused by the inability to reach a budget compromise and by the failure of interest rates to fall in line with the new lower levels of inflation. In fact, interest rates experienced a sharp upturn in the first weeks of June.

Certainly, the minute rate of decline in this most important indicator has to be considered a major factor impeding economic recovery. Table 4 presents calculations of the rate of decline over the past three months for several important interest rate series. As is apparent from the Table, the rate of downward movement has not been substantial.

**Table 4**
**Rates of Change for Selected Interest Rates**

| | Rate as of June 4 | Percentage Change from Marc |
|---|---|---|
| Prime Commercial Paper | 13.12 | -3.2% |
| Corporate AAA Bonds | 14.44 | -1.2 |
| Municipal Bonds | 11.99[1] | -4.3 |
| 3-Month Treasury Bill | 12.05 | -1.7 |
| 1-Year Treasury Bill | 12.04 | -1.9 |
| Long Term Treasury Bill | 13.49 | -1.5 |

[1] Rate as of May 28

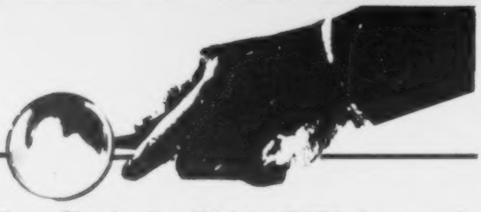
Several explanations exist for the persistence of high interest rates. They include the following: the tight monetary policy of the Federal Reserve; the persistent fear that inflation has not yet cooled; the heightened volatility in interest rates which has caused a risk premium to become attached to them; and, perhaps most importantly, the fears caused by impending large budgetary deficits.

Given this uncertain state of affairs, the recovery is likely to be delayed and, when it comes, relatively weak initially. It now appears obvious that unemployment will exceed 9.5 percent, although most expect it to remain under 10.0. GNP growth in the third quarter will likely fall in the range of 2.5-4.0 percent.

Consumer prices will increase somewhat over the pace attained in the first four months of 1982, due largely to a firming of prices for food and energy. Inflation for the year remains a strong bet to be below 6.0 percent. These factors were reflected in the 1.0 percent jump in the May CPI. In spite of their continued reluctance to do so, one can still look for interest rates to decline, albeit slowly.

*Rich Sexton*
*Research Economist*
*The Institute for Economic and Business Research*

# The Kansas Economy



## Employment

As expected, unemployment increased from March to April. The revised March figure was 4.9 percent; the April figure was 5.1 percent. The change was less at the state level than at the national, and the absolute level at the state was 4.3 percentage points below the national level. It is most unlikely that unemployment in the state will even remotely approach the national figure.

It appears that seasonal factors are largely responsible for the employment situation not becoming significantly worse. Contract construction increased quite substantially in the major urban counties, and farm employment increased throughout the state. Nearly two thousand additional workers found employment in the construction sector while several hundred found farm work. Yet the national recession continues to influence the Kansas economy. Over thirty-six hundred manufacturing jobs were lost in the combined labor markets of Kansas City, Topeka, Salina, and Wichita. Almost all of those jobs were lost in the durable goods industries with nondurable goods employment dropping only slightly. The decline in durable goods employment is a clear sign that the national recession continues to adversely affect the state economy. Ordinarily, the unemployment rate declines in the late spring, early summer months due to seasonal adjustments. Employment usually peaks in June or early July during harvest. Once this year's harvest concludes, however, seasonal factors will provide less of a balance to losses in manufacturing employment. Consequently, assuming the national economy fails to initiate a significant recovery by summer's end, the Kansas rate of unemployment will most likely increase during the months of July and August—reflecting less favorable seasonal factors and, possibly, further declines in manufacturing employment as induced by the national downturn.

Wichita experienced the greatest increase in unemployment. Its unemployment rate went from 5.6 percent in March to 6.8 percent in April. The private aircraft industry continues to stall—recovery being at least as distant as lower interest rates—while the military side (Boeing) continues to hold its own. Recent contract wins in the B-52 renovation program brighten the future horizon somewhat. Boeing's commercial aircraft sales for their new models have been disappointing so far but are bound to improve given the current dire condition of the commercial liners and their anticipated future recovery. However, any recovery in that industry is yet to be, and it will be even longer before Wichita feels any of its positive effects.

## Income

The latest income figures released by the Bureau of Economic Analysis (BEA) show that the Sunbelt region of the country (the Southwest and parts of the Far West and Rocky Mountain regions) continues to grow faster than the north and northeastern parts of the country as indicated by growth in total personal income. From 1979:1 to 1981:4, total personal income grew 34 percent in the United States. States in the Southwest averaged 46.8 percent, in the Far West 38.4 percent, and in the Mountain states almost 40 percent.

The Plains region experienced a 30 percent growth in personal income (PI). Of the eight BEA regions, it ranked seventh in terms of PI growth, surpassing only the Great Lakes region. Personal income in Kansas grew 31.5 percent over the period. Of the seven states in the Plains region, Kansas ranked third, exceeded by coal-rich North Dakota and Minnesota. Nationally, Kansas ranked in the mid-twenties. This is very much in line with Kansas' relative economic performance over the seventies (see the October-November *KBR*). Preliminary figures show per capita income growth slowing in Kansas when compared to the nation's rate of growth. From 1979 to 1981, per capita income grew 21.8 percent nationally, 17.9 percent in Kansas. During the seventies, the growth in Kansas generally exceeded the nation's. One explanation for Kansas' lackluster performance of late is the decline in farm income from 1980 to 1981. Farm income grew 9.0 percent nationally (Illinois, North Dakota, and Nebraska were big gainers in farm income) and shrank 11.0 percent in Kansas.

BEA also recently released 1980 income data on the 305 Standard Metropolitan Statistical Area (SMSAs) in the nation. The table below offers a summary of data for Kansas' four SMSAs. Clearly, the Wichita SMSA fared well compared to the other 305 SMSAs in the decade of the '70s.

BEA released Kansas county income data as well. Greeley County had the higest per capita income in 1980 at $20,663; Sedgwick County was second at $19,486. The top ten counties had per capita incomes over $12,400. However, eight of the top ten counties had a negative growth of personal income from 1979 to 1980. All eight were western counties. The remaining two counties were Johnson(4th) and Finney(9th). Those eight counties had negative population growth rates from 1970 to 1980, thus explaining some of the sizable growth in per capita income in the last year of that decade. Most of the counties with the lower per capita incomes were in the southeast and northeast corners of the state. Several had negative growth in personal income from 1979 to 1980. Whether the gap between the rich and poor counties closed from 1979 to 1980 is difficult to determine. It may have closed slightly, but the recession and poor farm harvest cloud the picture. The larger counties in the state, Sedgwick (11), Johnson (4), Wyandotte (39), Shawnee (30), Reno (43), Saline (31), and Douglas (86) had a range of per capita income from $13,854 to $7,469 (the number in parentheses is the state ranking).

## Agriculture

Overall farm prices are continuing to improve at mid-year both in Kansas and the nation. The improvement, however, has not been sufficient to alter projections that, nationally, 1982 will mark the third consecutive annual decline in farm income.

The most substantive price increases continue to be scored in livestock. Nationally, from March through May, overall livestock prices improved 4.1 percent. The comparable figure for Kansas was 3.5 percent. Crop prices were up 3.3 percent nationally during the March-May period; Kansas farmers experienced a 2.8 percent improvement over this period.

The subsequent paragraphs focus in

| SMSA | Total PI 1980 (Mil.$) | % Change 69-80 | Per Capita 1980 | National Rank | % Change 69-80 |
|---|---|---|---|---|---|
| Lawrence | 506 | 220.3 | 7,469 | 266 | 168.7 |
| Kansas City, KS-MO | 12,868 | 175.6 | 10,550 | 41 | 159.8 |
| Topeka | 1,798 | 181.8 | 9,674 | 100 | 172.0 |
| Wichita | 4,534 | 209.7 | 10,994 | 27 | 192.4 |

more detail on those agricultural products of particular importance to Kansas.

**Wheat:** Prices in Kansas through mid-May were at $3.70. This figure represented a drop of $0.06 from March. The 1982 harvest is projected to be a record—in the vicinity of 455 million bushels. If realized, it would represent a 49 percent improvement over last year's frost-stricken crop. Unfortunately, price prospects for the crop do not look particularly promising. Although overall U.S. production is expected to be off 2.0 percent from last year's record 2.10 billion bushels, supplies are still expected to be in excess due to carryovers from the '81 crop and production increases from America's export competitors.

Since market prices are expected to trend well below the $4.05 target-price guarantee, a positive inducement will exist to participate in the 15 percent set-aside program. However, at the time of this writing (mid-June), the level of actual participation and the resulting effect on price and output are not determinable.

**Corn and sorghum:** Corn prices in Kansas crept up $0.17 over the March-May period. Yet the $2.71 May price was still $0.57 below the year-ago price. A substantial price improvement for sorghum grain—$0.30—was also scored over this two-month period. However, the $4.22 May price average was $0.87 below that of a year ago.

Continued moderate price improvement appears to be on the horizon for these feed grains, due primarily to a firming in world markets caused by substantial import requirements in the USSR and a shift from wheat to corn by some importers, e.g., China.

The 1982 harvest, of course, remains the major unknown variable in the feed grain markets, as is farmer participation in the set-aside programs; the first reliable projections should soon be available.

**Soybeans:** Prices in Kansas improved significantly in the March-May period. The May average of $6.14/bu. was up $0.40 from March, but $0.93 below a year ago. Further price improvements are expected to be hamstrung by continued burdensome supplies.

**Cattle:** Overall prices received in Kansas for cattle in May averaged $61.30/cwt. This average figure represented a $1.40 improvement over March and a $4.20 gain over a year ago. Cattle on Kansas feedlots totaled 1,230,000 head as of May 1, a 1.0 percent decline from a year ago.

The price improvement experienced over 1982's first quarter was primarily due to reduced marketings. Production during the winter was down 2.0 percent from a year ago, and beef imports were off 15 percent. Some more price gains are being projected for the second half of 1982, but signals are appearing to indicate that a temporary price peak may be reached in the next few months.

Year-to-year numbers of cattle on feed lots increased in both April and May, the first such gains since 1978, and spring marketings were estimated to be 2.0 percent above those of a year ago. Additionally, the general economic recovery has not been forthcoming as rapidly as anticipated, thereby forestalling expected demand improvements.

**Hogs:** Pork producers continue to ride the upswing in the hog cycle. Kansas producers captured $2.70/cwt. price gains in the March-May period. The May overall price average of $56.00/cwt. represented a 37.6 percent price gain from a year ago.

Overall returns to hog producers have been bolstered further by lower prices for corn and protein supplement, as well as by a general easing of inflation. It looks as though marketings through the third quarter will remain 10-14 percent below a year ago and, consequently, that prices will remain firm (in the $53-$58 cwt. range) at least through fall.

## Outlook

Improvements in the Kansas economy hinge on recovery of the national economy. Although, in an absolute sense, times are not so difficult in Kansas as in most other parts of the nation—a 5.1 percent unemployment rate is more bearable than 9.5 plus percent—in a relative sense, the Kansas economy has been hard hit. Unemployment has increased at a greater rate in Kansas than in the rest of the nation since the recession began. (Seasonally adjusted, Kansas figures would likely reveal parallel growth rates, with some possibility of Kansas' being slightly lower.) As well, retail sales have not been brisk this spring, with sales growth just exceeding the rate of inflation. Also, banking activity in the state reflects the result of high-priced money. Kansans appears to be making money deposits at a faster rate than the rate at which they are taking out loans. This pattern will likely continue until interest rates decline and/or consumer confidence builds sufficiently. In addition, preliminary income figures show personal income growth in Kansas lagging behind the national growth rate at least through the first stages of the recession. Kansas' reputation as a relatively recession-proof state may suffer during this recession. Relatively, Kansas may suffer at least as much as the rest of the nation. Contributing to this effect is the severity of the depression in the aircraft industry. This time, relatively cheap gasoline prices, a sick commercial airline industry, weak exports, and high money prices exacerbate the situation. Improvements may be needed on several fronts to spur a strong general recovery in Kansas.

Preliminary indications are that 1982 will be a somewhat better year for Kansas agriculture than was 1981. The wheat crop apparently has recovered nicely from last year's meager harvests, and, although prices for grains are expected to remain relatively weak, a moderation in the rise of input costs over last year should serve to ease the price-cost squeeze somewhat. Also, Kansas livestock producers will certainly experience increased returns over last year.

These improvements will augur better times for Kansas' extensive agribusiness sector, but improvements may not be forthcoming for several months due to the time dispersion of the marketing process. In fact, the USDA estimate of cash receipts from farm marketings for Kansas in 1982 is $937.4 million. This prediction represents a 9.8 percent decline from 1981 and instead: reflects the fact that a substantial portion of the 1981 crop was not marketed until 1982. Consequently, farmers' overall cash positions are not expected to show much improvement until the fourth quarter of 1982 and beyond.

***Staff***
***The Institute for Economic***
***and Business Research***

TABLE I. GENERAL BUSINESS INDICATORS FOR KANSAS

| INDICATORS | | | LATEST DATE | LATEST PERIOD | % CHANGE | % CHANGE YEAR AGO |
|---|---|---|---|---|---|---|
| MANUFACTURING | | | | | | |
| AVERAGE WORK WEEK | HRS. | (M) | MAY | 38.4 | -1.8 | -6.6 |
| AVERAGE WEEKLY EARNINGS | HRS. | (M) | MAY | 331.9 | 0.5 | 4.0 |
| INITIAL CLAIMS FOR UNEMPLOY- MENT INSURANCE | TH. | (M) | APR. | 18715.0 | 20.2 | 98.1 |
| NEW INCORPORATIONS | | | | | | |
| IN-STATE FOR PROFIT | | (M) | MAY | 324.0 | -8.5 | -16.5 |
| OUT-OF-STATE FOR PROFIT | | (M) | MAY | 124.0 | -26.6 | -29.5 |

SOURCES: RESEARCH AND ANALYSIS SECTION
DIVISION OF STAFF SERVICES
KANSAS DEPARTMENT OF HUMAN RESOURCES
KANSAS SECRETARY OF STATE

TABLE II. EMPLOYMENT AND INCOME IN KANSAS

| INDUSTRY | | | LATEST DATE | LATEST PERIOD | % CHANGE | % CHANGE YEAR AGO |
|---|---|---|---|---|---|---|
| ALL INDUSTRIES | TH. | (M) | MAY | 939.5 | -0.0 | -2.4 |
| MANUFACTURING | TH. | (M) | MAY | 173.0 | -1.3 | -7.4 |
| DURABLE GOODS | TH. | (M) | MAY | 103.1 | -2.8 | -13.7 |
| STONE, CLAY, GLASS | TH. | (M) | MAY | 6.1 | 1.7 | -15.3 |
| PRIMARY METALS | TH. | (M) | MAY | 3.2 | -3.0 | -15.8 |
| FABRICATED METAL PRODUCTS | TH. | (M. | MAY | 11.2 | -2.6 | -6.7 |
| MACHINERY (INCL. ELEC.) | TH. | (M) | MAY | 30.1 | -2.6 | -11.4 |
| TRANSPORTATION EQUIPMENT | TH. | (M) | MAY | 41.9 | -3.7 | -16.4 |
| AIRCRAFT AND PARTS | TH. | (M) | MAY | 34.8 | -4.7 | -18.1 |
| OTHER DURABLE GOODS | TH. | (M) | MAY | 10.8 | -0.9 | -14.1 |
| NONDURABLE GOODS | TH. | (M) | MAY | 69.9 | 1.9 | 3.6 |
| FOOD AND KINDRED PRODUCTS | TH. | (M) | MAY | 25.8 | 2.8 | 11.6 |
| MEAT PRODUCTS | TH. | (M) | MAY | 11.6 | 6.4 | 27.5 |
| APPAREL | TH. | (M) | MAY | 3.5 | 0. | 0. |
| PRINTING AND PUBLISHING | TH. | (M) | MAY | 16.9 | -0.6 | 2.4 |
| CHEMICALS | TH. | (M) | MAY | 8.8 | -1.2 | -4.6 |
| PETROLEUM AND COAL | TH. | (M) | MAY | 4.8 | 4.3 | -2.0 |
| OTHER NONDURABLE | TH. | (M) | MAY | 10.3 | -1.0 | -1.9 |
| MINING | TH. | (M) | MAY | 19.3 | -2.0 | 16.3 |
| OIL AND GAS EXTRACTION | TH. | (M) | MAY | 17.4 | -2.2 | 17.6 |
| CONTRACT CONSTRUCTION | TH. | (M) | MAY | 38.8 | -0.5 | -9.3 |
| TRANS., COMM., ELEC., GAS | TH. | (M) | MAY | 61.7 | 1.1 | -4.9 |
| WHOLESALE TRADE | TH. | (M) | MAY | 65.0 | 0. | -1.2 |
| RETAIL TRADE | TH. | (M) | MAY | 161.8 | 0.8 | -2.2 |
| FINANCE, INSURANCE, REAL EST. | TH. | (M) | MAY | 47.8 | 0.2 | 1.1 |
| SERVICES | TH. | (M) | MAY | 179.3 | 0.3 | 0.6 |
| FEDERAL GOVERNMENT | TH. | (M) | MAY | 26.0 | 1.6 | -1.9 |
| STATE AND LOCAL GOVERNMENT | TH. | (M) | MAY | 166.8 | 0. | 12.4 |
| PERSONAL INCOME* | MIL.$ | (Q) | 4TH | 26297.0 | 12.2 | 11.0 |

*PERCENT CHANGE COLUMN INDICATES AVERAGE ANNUAL RATE

SOURCES: RESEARCH AND ANALYSIS SECTION
DIVISION OF STAFF SERVICES
KANSAS DEPARTMENT OF HUMAN RESOURCES
BUREAU OF ECONOMIC ANALYSIS

TABLE III. EMPLOYMENT AND SALES DATA FOR KANSAS, STATE AND AREAS

| AREA | | | LATEST DATE | LATEST PERIOD | % CHANGE | % CHANGE YEAR AGO |
|---|---|---|---|---|---|---|
| KANSAS--STATEWIDE | | | | | | |
| CIVILIAN LABOR FORCE | TH. | (M) | MAY | 1230.7 | 1.1 | 0.2 |
| EMPLOYED | TH. | (M) | MAY | 1168.0 | 1.1 | -1.5 |
| FARM | TH. | (M) | MAY | 66.2 | 13.9 | 11.3 |
| UNEMPLOYED | TH. | (M) | MAY | 62.7 | 2.0 | 46.5 |
| RATE* | % | (M) | MAY | 5.1 | 0. | 1.6 |
| RETAIL SALES | MIL.$ | (M) | MAY | 1075.8 | -1.9 | -0.6 |
| WICHITA SMSA | | | | | | |
| CIVILIAN LABOR FORCE | TH. | (M) | MAY | 226.0 | 0. | -0.5 |
| EMPLOYED | TH. | (M) | MAY | 210.2 | -0.2 | -4.1 |
| FARM | TH. | (M) | MAY | 2.7 | 17.4 | 0. |
| UNEMPLOYED | TH. | (M) | MAY | 15.8 | 2.6 | 100.0 |
| RATE* | % | (M) | MAY | 7.0 | 0.2 | 3.5 |
| RETAIL SALES | MIL.$ | (M) | MAY | 233.1 | -5.8 | 3.7 |
| KANSAS PORTION OF KANSAS CITY SMSA | | | | | | |
| CIVILIAN LABOR FORCE | TH. | (M) | MAY | 275.9 | 1.1 | 1.9 |
| EMPLOYED | TH. | (M) | MAY | 263.0 | 1.1 | 1.3 |
| FARM | TH. | (M) | MAY | 1.5 | 15.4 | 0. |
| UNEMPLOYED | TH. | (M) | MAY | 12.9 | 0. | 15.2 |
| RATE* | % | (M) | MAY | 4.7 | 0.1 | 0.6 |
| RETAIL SALES | MIL.$ | (M) | MAY | 196.0 | -1.9 | 1.4 |

TABLE III. EMPLOYMENT AND SALES DATA FOR KANSAS, STATE AND AREAS (CONT.)

| AREA | | | LATEST DATE | LATEST PERIOD | % CHANGE | % CHANGE YEAR AGO |
|---|---|---|---|---|---|---|
| TOPEKA SMSA | | | | | | |
| CIVILIAN LABOR FORCE | TH. | (M) | MAY | 94.2 | 2.3 | -0.5 |
| EMPLOYED | TH. | (M) | MAY | 89.1 | 2.2 | -1.3 |
| FARM | TH. | (M) | MAY | 2.0 | 17.6 | 0. |
| UNEMPLOYED | TH. | (M) | MAY | 5.1 | 2.0 | 15.9 |
| UNEMPLOYMENT RATE* | % | (M) | MAY | 5.4 | 0.1 | 0.8 |
| RETAIL SALES | MIL.$ | (M) | MAY | 75.1 | -9.0 | -3.0 |
| LAWRENCE SMSA | | | | | | |
| CIVILIAN LABOR FORCE | TH. | (M) | MAY | 35.1 | 0.6 | -0.3 |
| EMPLOYED | TH. | (M) | MAY | 33.6 | 0.3 | -0.9 |
| FARM | TH. | (M) | MAY | 0.8 | 14.3 | -11.1 |
| UNEMPLOYED | TH. | (M) | MAY | 1.5 | 7.1 | 15.4 |
| RATE* | % | (M) | MAY | 4.3 | 0.3 | 0.6 |
| RETAIL SALES | MIL.$ | ( ) | MAY | 23.[illegible] | -3.4 | -1.2 |
| RILEY COUNTY--MANHATTAN AREA | | | | | | |
| CIVILIAN LABOR FORCE | TH. | (M) | MAY | 22.0 | 2.9 | 0.2 |
| EMPLOYED | TH. | (M) | MAY | 21.1 | 1.7 | 0.5 |
| FARM | TH. | (M) | MAY | 1.1 | 12.8 | 0. |
| UNEMPLOYED | TH. | (M) | MAY | 1.0 | 42.7 | -5.0 |
| RATE* | % | (M) | MAY | 4.5 | 1.1 | -0.2 |
| RETAIL SALES | MIL.$ | (M) | MAY | 16.7 | -[illegible] | 4.2 |
| RENO COUNTY--HUTCHINSON AREA | | | | | | |
| CIVILIAN LABOR FORCE | TH. | (M) | MAY | 31.8 | 1.2 | 3.5 |
| EMPLOYED | TH. | (M) | MAY | 29.6 | 1.0 | 3.1 |
| FARM | TH. | (M) | MAY | 1.4 | 14.1 | 0. |
| UNEMPLOYED | TH. | (M) | MAY | 1.8 | 7.5 | 12.5 |
| RATE* | % | (M) | MAY | 5.7 | 0.3 | 0.4 |
| RETAIL SALES | MIL.$ | (M) | MAY | 35.4 | -3.6 | -0.1 |
| CRAWFORD COUNTY--PITTSBURG AREA | | | | | | |
| CIVILIAN LABOR FORCE | TH. | (M) | MAY | 16.5 | 0.1 | -2.9 |
| EMPLOYED | TH. | (M) | MAY | 15.8 | 1.8 | -2.5 |
| FARM | TH. | (M) | MAY | 0.9 | 12.5 | -2.8 |
| UNEMPLOYED | TH. | (M) | MAY | 1.0 | 2.7 | 3.6 |
| RATE* | % | (M) | MAY | [illegible] | 0.1 | -0.5 |
| RETAIL SALES | MIL.$ | (M) | MAY | 11.5 | -6.3 | -7.8 |
| LYON COUNTY--EMPORIA AREA | | | | | | |
| CIVILIAN LABOR FORCE | TH. | (M) | MAY | 18.4 | 1.1 | 2.8 |
| EMPLOYED | TH. | (M) | MAY | 17.5 | 0.8 | 1.7 |
| FARM | TH. | (M) | MAY | 0.9 | 17.1 | -2.2 |
| UNEMPLOYED | TH. | (M) | MAY | 0.9 | 4.7 | 25.7 |
| RATE* | % | (M) | MAY | 4.9 | 0.3 | 0.4 |
| RETAIL SALES | MIL.$ | (M) | MAY | 15.0 | -2.5 | -2.4 |
| SALINE COUNTY--SALINA AREA | | | | | | |
| CIVILIAN LABOR FORCE | TH. | (M) | MAY | 26.5 | 0.6 | [illegible] |
| EMPLOYED | TH. | (M) | MAY | 24.8 | 0.3 | -2.0 |
| FARM | TH. | (M) | MAY | 0.8 | 15.6 | -6.2 |
| UNEMPLOYED | TH. | (M) | MAY | 1.7 | -11.7 | 41.7 |
| RATE* | % | (M) | MAY | 6.1 | -0.7 | 2.1 |
| RETAIL SALES | MIL.$ | (M) | MAY | 27.[illegible] | -2.2 | -1.[illegible] |
| BARTON COUNTY--GREAT BEND AREA | | | | | | |
| CIVILIAN LABOR FORCE | TH. | (M) | MAY | 19.6 | 1.4 | 4.1 |
| EMPLOYED | TH. | (M) | MAY | 19.0 | 1.5 | 3.8 |
| FARM | TH. | (M) | MAY | 1.0 | 14.7 | -2.5 |
| UNEMPLOYED | TH. | (M) | MAY | 0.6 | 8.1 | 10.0 |
| UNEMPLOYMENT RATE* | % | (M) | MAY | 3.3 | 0.2 | 0.9 |
| RETAIL SALES | MIL.$ | (M) | MAY | 14.0 | -3.8 | -0.4 |
| MONTGOMERY COUNTY--COFFEYVILLE AREA | | | | | | |
| CIVILIAN LABOR FORCE | TH. | (M) | MAY | 21.6 | 0.5 | -1.4 |
| EMPLOYED | TH. | (M) | MAY | 20.1 | -0.6 | -4.3 |
| FARM | TH. | (M) | MAY | 0.6 | 14.5 | -10.0 |
| UNEMPLOYED | TH. | (M) | MAY | 1.5 | 16.1 | 85.0 |
| RATE* | % | (M) | MAY | 6.8 | 0.9 | 3.2 |
| RETAIL SALES | MIL.$ | (M) | MAY | 18.3 | -2.1 | 1.7 |

*ALL RATE CHANGES INDICATE ABSOLUTE CHANGES INSTEAD OF PERCENT

NOTE: ALL RETAIL SALES FIGURES ARE MONTHLY AVERAGES FOR THE PRIOR THREE MONTHS.

SOURCES: RESEARCH AND ANALYSIS SECTION
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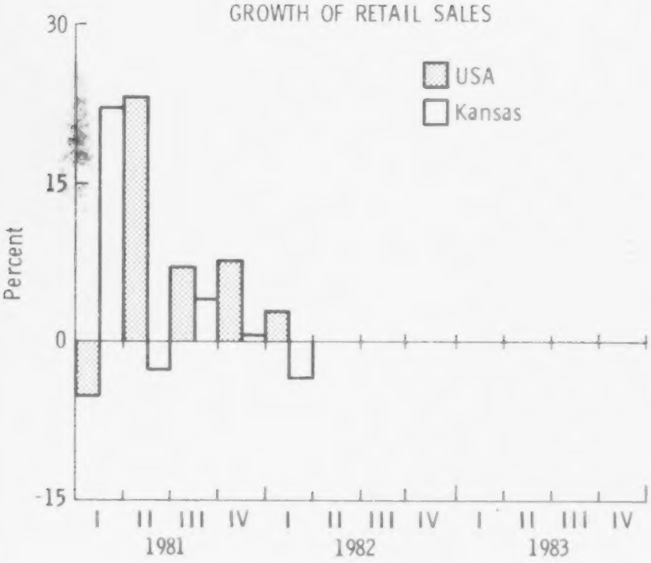
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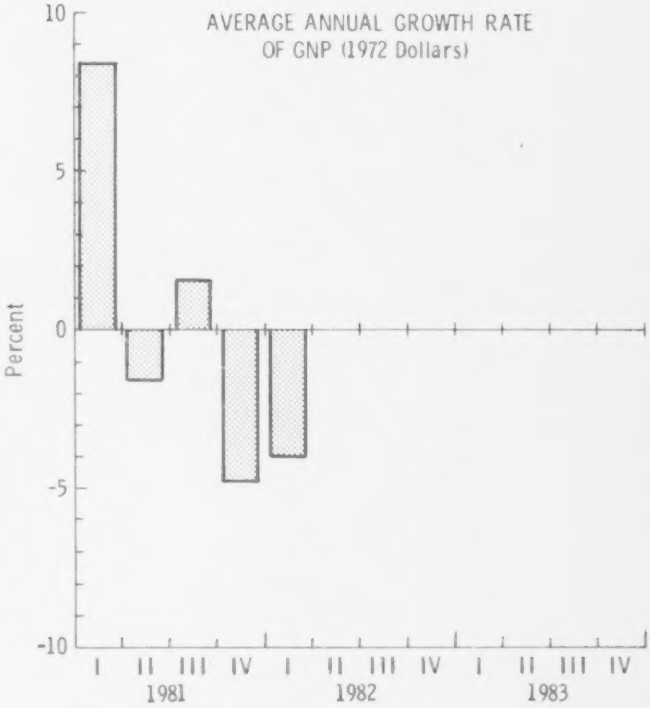
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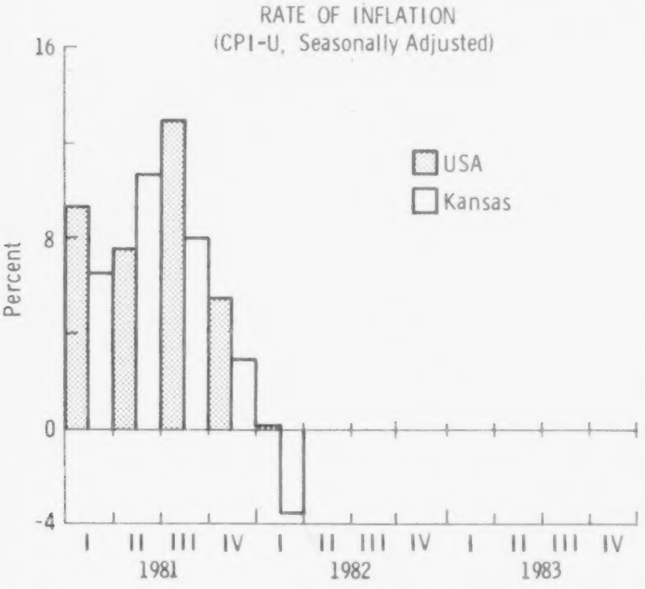
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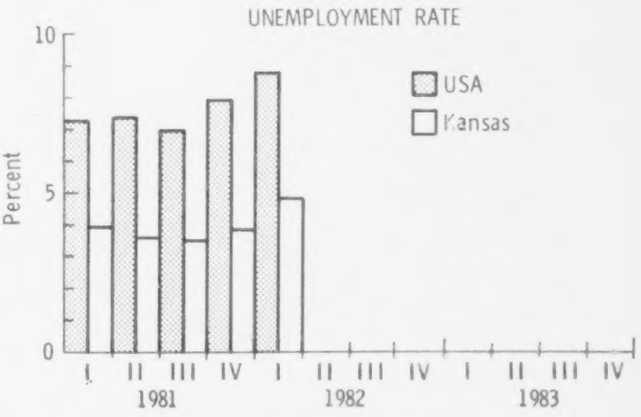
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